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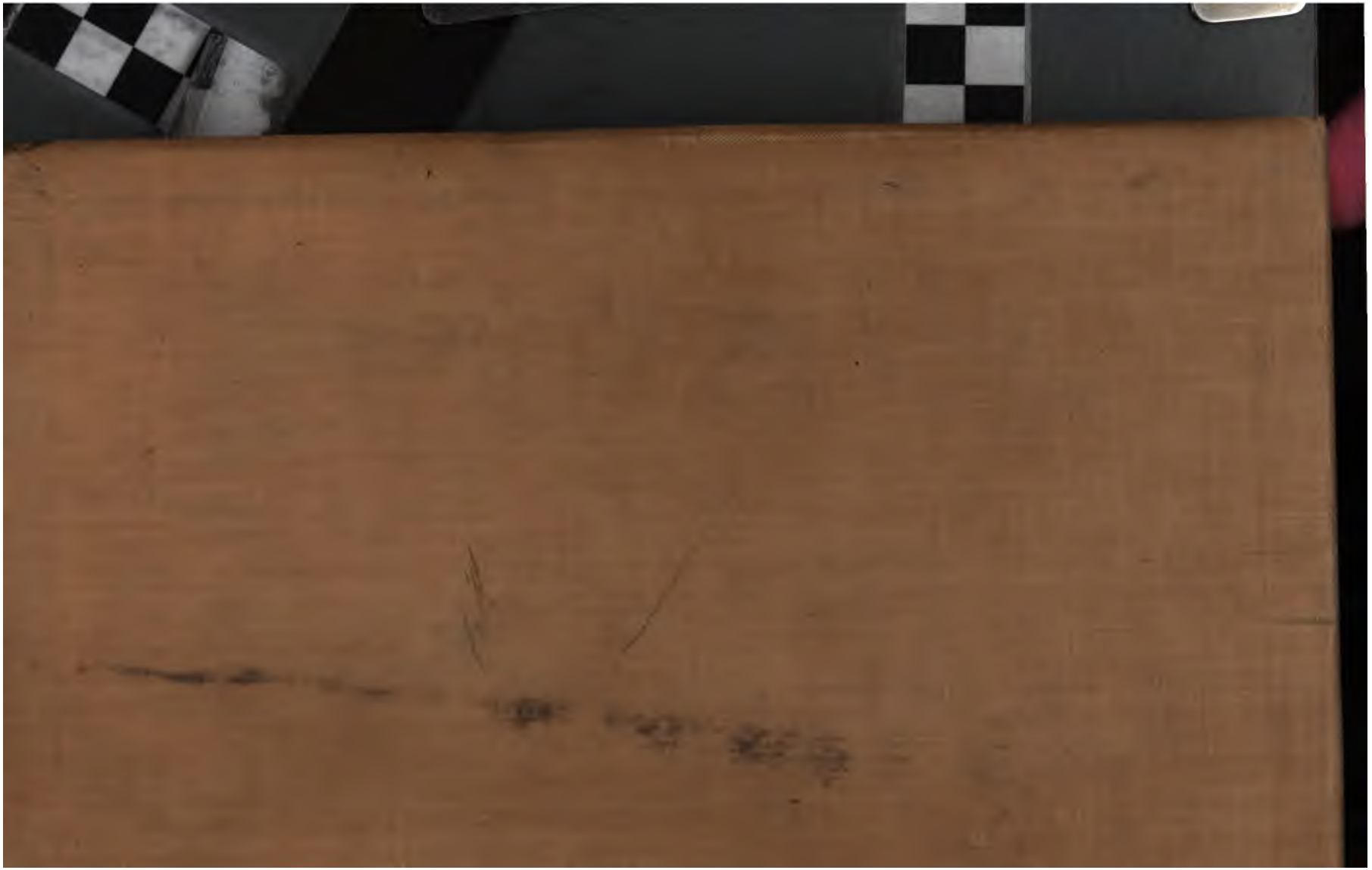

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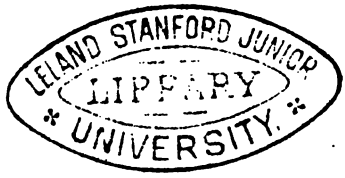
TRANSACTIONS OF

THE ILLINOIS SOCIETY FOR CHILD-STUDY

PUBLISHED FOR THE
SOCIETY BY

THE WERNER COMPANY
CHICAGO NEW YORK



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PREFATORY NOTE.

After a well attended two-days' meeting, with a full and interesting program on Child-Study in its various phases, there was organized at Champaign last May a state society for the promotion of Child-Study, which it is hoped, and not without warrant, will soon unite parents, teachers, kindergartners, physicians, neurologists, physiologists and others of this great commonwealth of Illinois in the important work of investigating the nature of the child at any period of its development.

* * * * * *

The success of the movement is assured when we remind ourselves that Col. Francis W. Parker has been made President of the society. Dr. C. C. Van Liew of Normal is the efficient Secretary and Treasurer to whom all applications for membership should be addressed. The three Vice-Presidents are Co. Supt. Orville T. Bright, of Chicago; President John W. Cook of Normal,and Dr. Everest, President of the Southern Normal. The Executive Committee is made up of the following persons: Dr. William O. Krohn, University of Illinois, Chairman; Professor Charles A. McMurry, Normal; Professor H. H. Donaldson, University of Chicago; Supt. A. V. Greenman, Aurora; Dr. Adolf Meyer, Pathologist, Kankakee Hospital; Dr. Bayard Holmes, College of Physicians and Surgeons, (also member State Board of Factory Inspection), Chicago; and Professor Wm. L. Bryan of the University of Indiana.

* * * * * *

Col. Parker well represents the purpose and endeavors of the new society in a recent communication. Four points are submitted for the organization of the work of the society.

First: That the Executive Committee, consisting of experts in physiological and experimental psychology, pathology, and child-study, shall have charge of the general direction of the work of the society in regard to experiments and laboratory work, and the publication of such circulars, statements and books as may be neccessary to arouse a great interest and direct the study of all those who wish to engage in such study in the State of Illinois.

The Executive Committee shall form the scientific centre of all the work, to give impulse and direction to all investigations and to collect and edit all valuable results.

Second: The society shall seek to affiliate itself if practicable with the various teachers' associations of the State of Illinois, viz.: The State Association, which convenes during the holiday season at Springfield, and the Northern, Central and Southern Associations; that the society urge the officers of these respective associations to have at their meetings a Child-Study section, to be supplemented by discussion in the general meetings as they see fit. By thus affiliating with these main associations, it is thought that the work of Child-Study may be made to penetrate the county and city teachers' meetings, and be made a subject of continual discussion with all teachers.

Third: That Child-Study Round Tables shall be formed all over the State, wherever there are sufficient numbers of persons who wish to enter upon the work. It is suggested that five or more persons form a Round Table, and that upon petition they receive a charter from the President and Executive Committee, together with such publications as may be necessary to direct their work. It is proposed that these Round Tables be made up of parents (especially mothers who are interested in the study of children), teachers and kindergartners. The RoundTables may meet weekly, fortnightly or monthly, according to circumstances, and it is suggested that they make a semi-annual or annual report to the Executive Committee, which reports shall be collated and published in a year book to assist the work of succeeding years.

Fourth: That a large Advisory Committee be appointed representing all sections of the State; that upon such Advisory Committee shall be placed professors of experimental and physiological psychology, neurologists, pathologists, teachers of the defective—deaf, dumb, blind, imbecile, etc.—physicians inter-

ested in children's diseases, and kindergartners. It shall be the duty of the Advisory Committee to assist the Round Tables in discussion and by lectures either before the Round Tables or in public.

* * * * *

The present brochure consists of—

(1) Several papers (in full or abstract) read at the Child-Study congress held at the University of Illinois last May, which, after conference with some of the leading educators of the state, was convened on the invitation of the present chairman of the Executive Committee at the Psychological Laboratory of the University of Illinois.

(2) The special contributions of Dr. Donaldson and Professor Bryan.

(3) A translation from the German of Preyer's appendix to his interesting book on "*Die Geistige Entwicklung in die Erste Kindheit.*" This appendix consists simply of directions for mothers and others who care to conduct a day-book recording the development of the infant from birth. In the German, these valuable suggestions have remained inaccessable to a large number of mothers and others who have already signified their intention of making use of them as now translated. The translator has had no other purpose in mind than to make these directions of Preyer available to those individuals who care to prosecute child-study as members of the Illinois Society for Child-Study. As chairman of the Executive Committee, upon which committee, by the way, the work of editing the *Transactions* devolves, it has been his ambition to place before the members of the society something in the way of practical directions and suggestions. Dr. Bryan's paper, prepared at the suggestion of Supt. Orville T. Bright, for another purpose, contributes largely to this end, and we are led to believe by the kindly assurances already received that this translation of Preyer's direct suggestions and interrogations will be of great value to any parent interested in recording the events that take place in the progress of unfolding the child's powers and capacities day by day.

The importance of the study of children is already recognized as one of the prominent features in the search for practical

methods to employ in the education of children. In former years the study of educational methods was entirely confined to the study of mere theories; but little by little educators have come to see that after all it is of much more importance for teachers to study the minds of their pupils as they come into contact with them day by day in the school-room. It is gratifying to know that this new zest for child-study, this eagerness to make the child's mind an open page, is taking the precedence of all other discussions in our educational meetings. It is also a source of gratification, and encouragement as well, that the study of children is the most practical of all possible studies, for it relates to the mental health and to the economy of human energy. Indeed, it is the only thing that can give an exact scientific basis to educational methods, for education means nothing more nor less than to make the finest specimen of manhood and womanhood possible; to produce an individual rich in strength, developing the child to its fullest maturity in size and power.

It is the earnest hope of the officers of the society and the Executive Committee that this initial publication of the Illinois Society for Child-Study will conduce toward invigorating and enriching, through proper regard for, and study of the child's nature, the work of the Illinois common school.

The attitude manifested toward Child-Study by the progressive teachers of the State is an earnest of what a few years of zealous, painstaking, thorough work of investigation into the real nature of the Illinois child will accomplish toward perfecting both our methods and conceptions of educational work.

WILLIAM O. KROHN,
Chairman Executive Committee.

UNIVERSITY OF ILLINOIS
Dec. 15, 1894.

CHILD-STUDY AS RELATED TO INSTRUCTION.

BY C. C. VAN LIEW.

THE HISTORY of educational thought reveals the fact that past systems of education have been determined chiefly (1) by man's life-ideals, by his varying conceptions of human destiny, (2) by the nature of the studies he pursued and the specific ends he had in view in pursuing them, and (3) by the power of established and traditional usages. That a *fourth* factor of well-nigh paramount significance was almost wholly ignored, has become very obvious to the educational world of to-day. Yet if we reflect, we shall find, even as far back as Comenius, signs of a desire to recognize the claims of the educable being himself, as a determinative factor in the construction of educational systems. It is true that some of our greatest educational reformers failed to grasp the full scope of this problem; they were rather the educational seers, who divined what has become one of *the* educational problems of to-day, without being able to realize fully its possibilities. Nevertheless it can hardly be denied that an evolution of the idea of child-study may be distinctly seen in Comenius' plea for objective instruction and the training of the senses; in Rousseau's extreme principle of a return to nature and the precedence of physical education; in Pestalozzi's untiring labors in behalf of the rights of sense-perception; in Froebel's emphasis of motor activity and the play-impulse in the child's growth; and finally in Herbart's system of education as based upon the pyschological and ethical nature of man. Since Herbart's time there has been a growing conviction that the subject of all educational measures, man himself, should furnish at least a portion of their guiding principles; hence the study of psychology has come to be quite universally regarded as one of the fundamental sciences of pedagogy. Its influence upon methods during

the last few decades has unquestionably been wholesome, but some of the more recent developments of this very influence, and the rapid growth of experimental psychology, which has naturally drawn attention more and more to the study of both the physiological and psychological traits of the individual, have together led us into a new field of educational research, known as *child-study*, or, as Mr. Chrisman in his recent article in the Forum designates it, *paidology*.

Child-study deals not only with the *general* traits of *childhood* but also with the *individual* child as he *is*, physiologically and psychologically, and with the conditions and modes of both his natural and morbid growth. Its office is pre-eminently to reveal to the educator, regardless of preconceived speculation or theory, the nature of *each individual* being he undertakes to educate.

Despite the vast host of individual facts that this comparatively new field of research has accumulated, no attempts have been made at formulating sweeping generalizations or theories for the educator, partly because their too early and hasty appearance would tend to create a highly undesirable impression and react unfavorably, and partly because the science of child-study itself has been more or less absorbed in the countless problems which its own birth placed before it. Indeed, we may well be content to await the outcome of a natural, healthy course of development, before attempting to discover a new body of revolutionizing theory. But it seems to me that enough of the nature of the child upon entering school and during school-life, has already been revealed to admit of at least a few legitimate conclusions as to the bearing of child-study upon the work of instruction, to show that this science ought to be of *immediate* service to the cause of education. It is the purpose of this paper, therefore, to discuss certain relations between child-study and the work of instruction, to which present data undoubtedly point, but without attempting to attain any broad or sweeping generalizations. The bearings of the interminable data, which child-study has brought to light, upon the whole problem of education are so numerous, that a more or less rigid restriction of the present theme to their bearing upon the work of instruction proper, seems desirable.

The first influence which we should expect paidology to exert

upon the work of instruction, may be sought in the entire attitude of the teacher himself toward the children whose development he is trying to guide. In other words, the demand for child-study is preeminently a recognition of the fact that, in general, the attitude of the teacher heretofore, at least upon approaching the duties of his calling for the first time, has been exceedingly unprofessional, not to say culpable. At best, he has approached the child with a more or less tolerable mastery of certain intellectual drugs, which he thought it desirable to administer, but without any adequate conception of their possible, immediate or future effects upon the pupil, nor of the latter's individual characteristics and powers. Child-study now demands that the teacher, not only in his social intercourse with the child, but also in the earnest and often laborious tasks of the class-room, shall approach his pupils sympathetically and intelligently, not blindly, i. e. that he shall proceed with some reasonable degree of familiarity with the individual nature and growth of the being whose development has in part been intrusted to his care. How this more sympathetic and intelligent attitude toward the child, based upon accurate knowledge of the latter, may affect the work of instruction, I hope to be able to show more in detail.

It will hardly be necessary here to more than mention the great influence that the anthropological and medical study of children has brought to bear on all those factors in the child's school environment that are only incidental to the work of instruction. Stimulated by such investigations, school-hygiene has made very rapid and efficient progress in the last decade. But these anthropological and medical data,especially in so far as repeated investigations show certain physical conditions to be invariably or preferably accompanied by certain psychical states and processes, may have a very essential and much more direct bearing upon the work of instruction. It can hardly be gainsaid to day that certain specific physical conditions are essential for the presence of all mental processes, either natural or morbid. Will not a knowledge of these conditions assist the instructor in determining more accurately *when* the child will react most readily and efficiently in response to a certain proposed measure,and what measures are best suited to a definite hour, season, or year, or to the sum total of given conditions? For example,if it is true,as the above mentioned investigations are show-

ing, that the fatigue arising from either mental or physical exertion (Dresslar, Ped. Sem., Vol. 11, No. 1.) varies with the condition of mind and body, that we tire more easily when work is distasteful or when we are not in complete health, that physical exertion produces fatigue more speedily when the mind is tired, and vice-versa, that the season, hour of the day, condition of the atmosphere, etc., all bear upon the effects of fatigue, the teacher or curriculum that ignores these facts not only can not hope for clear and enduring results in instruction, but also outrages those most vital powers which constitute the physical basis of the child's mental life, viz., those of the nervous organism. Dr. Cowles tells us that normal mental fatigue is evinced by decreased power of memory and acuteness of sense-perception, slowed reaction time, feeble and vacillating attention, inertness of associative powers and subdued emotional tone. Familiarity with these general symptoms alone, which relate directly to psychical activity, ought to prevent the intelligent teacher from any attempt to reach the desired results of instruction in the presence of fatigued pupils. Every attempt to break through the limitations which the law of fatigue places upon the work of instruction must result disastrously. The most lamentable of these results is that wretched mental habit, characterized by short and weak memory, reluctant, uninterested effort, mind wandering, and intermittent purpose and will activity, which so seriously impair the powers of the adult. This is one of the fields of paidology to which the American teacher should give timely heed, for our whole American system still tends to haste and rapidity in education, and the emphasis, not even exclusively in the popular mind, is still placed upon the *quantity* of acquisition. Again, a full recognition of the single fact that fatigue appears more speedily when the task is distasteful and uninteresting, ought to teach the thoughtful instructor a valuable lesson in the economics of class-instruction, especially in the earlier years of the child's life, when his undeveloped interests fail to supply the stronger, more enduring motives that are necessary to carry the adult through laborious and distasteful tasks. It is impossible as yet to say definitely in how far the "nascent periods" of growth of the different organs, which have undoubtedly been shown to exist, although their exact significance has not yet been determined with sufficient accuracy, will affect

instruction in those branches requiring prolonged and confining practice of the hand, arm, eye, etc., in the execution of the minute motions of writing, drawing, manual exercises, reading. The periodicity of physical growth, the fact that physical growth is rhythmic, as it were, is a periodic ebb and flow of life-forces, at least already points unerringly to the precedence of physical education, and to the elimination of all practices of instruction which conflict with it.

Enough has been said perhaps to show that the results of child-study, from the anthropological side, have already given us data that not only require certain conditions in the physical environment of the child, but which show the work of instruction itself to be definitely conditioned and limited by certain physiological laws.

But has child-study anything to offer the *method* of instruction itself? The history of pedagogical method in general, especially since Comenius, reveals a steady development down to the present time. In the absence of any other more trustworthy or definite method of instruction which recent experimental investigations might offer, we are not prepared to reject that which history has to offer; nor is it necessary (1) because the history of method itself is the record of experiences arising from experimentations that were often crude and unscientific, it is true, but whose sum total, even though often by way of negative results, have their permanent lessons to teach; and (2) because the more thorough and scientific experimentation of today is not only doing much to substantiate the method toward which the history of pedagogics has tended for centuries, but is also giving it fuller and deeper significance, revealing it in many new lights and relations, and by means of a broad foundation of concrete data, is preparing for its more intelligent application.

The general method of instruction to which I refer may be briefly stated as follows: Any rational method of instruction, in so far as it can lay claim to scientific soundness, must be based (1) upon the manner in which the mind acquires individual impressions from its objects of knowledge, at first chiefly from objects of the external world; and (2) upon the manner in which these impressions, as the materials of knowledge, acquire permanent significance, are worked over into legitimate structures of thought, become the accepted norms of action and are trained to

useful and reliable habits. The former of these processes deals with the sphere of sensations and the manner in which the latter, still as individual impressions, are assimilated, i. e. become sense-perceptions or intelligent observations. For example, the child's first visual sensations are probably nothing more than vague impressions of light and shade; these sensations are repeated and with each repetition become more and more indelibly impressed upon the mind. It is this lasting impression or memory which finally enables the mind to discover something familiar and, in the light of past experiences, significant in the new kindred sensations. Thus, by this assimilative power of related memory-impressions, develops that remarkable differentiation of mere light and shade into the fine distinctions of color and form of which the human eye and mind are capable. This same process of acquiring significant individual sense-impressions by means of kindred experiences of the past, follows the child through every stage of development. It is the only road he can travel to intelligence. The problem for child-study, therefore, is: *what is the full, logical and legitimate applicatiou of this long discussed principle of observation, or sense-perception?* What a field is here opened to the student of child-nature!—a field, indeed, whose possibilities have not half been told. What a struggle the history of education has had to achieve any adequate recognition of the principle of observation, the true significance of which the student of child-nature is now about to force upon us from a new standpoint and with renewed determination.

We have been wont to preach the training of the child to accurate sense-perception, and, in fact, have in certain isolated disciplines, given the child opportunity to exercise his senses; but yet, if there is any one failing to which the average teacher of today is still peculiarly prone, it is that of disregarding the characteristic world of sense-perceptions in which the *child* moves, and of acting upon the supposition that the child sees, hears, touches, *as* and *what* he (the teacher) sees, hears, and touches, and with sense-organs of equal skill. He proceeds quite regardless of numberless significant data which the student of child-nature has already collected, for example, that children differ very widely from one another in their visual perceptions of color, distance, etc., and above all, that, even under normal sense activity, their observa-

tions are often hasty and inaccurate, where care and accuracy are essential, and vice versa, being dominated very largely by the fleeting interests and emotions of the moment. (I shall have occasion to return to these interests again.) In a Forum article (Dec. '93, p. 434) Dr. G. S. Hall says: "The chief result here (i. e. in studies of the hearing of children) is the discovery that large numbers of children whose hearing, although never called defective, is so dull as seriously to mar the efficacy of most oral teaching, are called backward when they are simply a little deaf." But these defects are not always due to physical causes, but quite as frequently to a lack of the habit of mental alertness to auditory impressions.

The recognition of these individual deficiencies and inaccuracies in observation, not only conditions the teacher's treatment of the child's perceptive powers, but his understanding of the child's intellectual limitations as well, and no intellectual limitation is quite so damaging as that of scanty sense-material. Therefore if child-study along this line of sense-preception points to any need in the early education of the child whatever, it is that he be brought into close and sympathetic touch with nature. (Hall)

This is one phase of our problem which demands of the instructor more than a knowlege of the condition, growth and possibilities of the child's powers of observation in general. The *general* truth in the principle of sense-perception can in no wise relieve us from the task of thoughtful and judicious application to the individual case. If individual differences exist in the pupils, they must be respected, and that they do exist, especially in the sphere of the senses, can not be doubted. Here, child-study to the rescue! The teacher must become a careful student of each child's sense-idiosyncrasies, at least in so far as they deviate sufficiently from normal activity, to require consideration in instruction.

The vital importance of sense-perception as a source of healthy mental life is set forth by Dr. W. H. Burnham, in the article on "Individual Differences in the Imagination of Children," (Ped. Sem. Vol. II. No. 2). He points to the significant fact that the cultivation of a given sense develops the corresponding form of imagination. Professor Patrick thinks our present methods of education tend unduly to develop visual imagination, whereas

the remoter past made the auditory imagination relatively more important. Furthermore the type of one's reproductive imagination has been shown by tests to determine the form and character of his abstract thinking. It is at least safe to conclude that if one would multiply the images with which the mind operates, as many avenues of sense as possible should be cultivated and the child be led carefully to attend to his sense-impressions.

Again, the work of the teacher is necessarily handicapped from the first day of the child's life in school, by his complete lack of acquaintance with the child's mental contents; he is constantly prone to presuppose certain experiences in the child's life, which it would seem reasonable to expect, but which are never necessarily present. This deficiency has led to attempts at the analysis of the child's mental contents upon entering school Most prominent among these tests are those of the Pedagog Verein in Berlin, of Lange in Planen, Hall in Boston, Greenwood in Kansas City, and von Hartmann in Annaberg. The purpose was to acquire some conception of each child's individuality, so far as it could be revealed by his ideas. Long lists of common objects, in various conditions, were selected from the child's own environment. He was then questioned concerning his knowledge of these and his answers recorded. It is at once evident that these analyses offer certain well-nigh insurmountable difficulties. It is difficult to conceal from the child that he is being examined and still more difficult to secure a natural and reliable response. Often half a dozen questions are necessary to secure one approximately reliable return. Yet these analyses are not without their value to the future work of instruction. They reveal the fact that the child may be wholly ignorant of many of the commonest objects of his immediate environment, that his ideas of the meaning and purpose of those objects he *has* seen, are either quite vague or false, that his general notions are applied with too great breadth and his generalizations are far too sweeping. In other words, to analyze as thoroughly as may be the thought circle of the child as he enters school, is to reveal the only foundation upon which the teacher can build. There can be but little doubt that the teacher, armed with this insight into the child's ideas, would be able to proceed far more cautiously and judiciously in instruction, recog-

nizing first of all more fully how completely the child's future intellectual powers will depend on the character and number of his observations in youth.

The conclusions which G. Stanley Hall draws from these analyses are stated in Vol. I, of the Ped. Sem. about as follows: I.—"There is next to nothing of pedagogic value the knowledge of which it is safe to assume at the outset of school life. Hence the need of objects and the danger of books and word cram. II.—The best preparation parents can give their children for good school training is to make them acquainted with natural objects, especially with the sights and sounds of the country, and to send them to good and hygienic, as distinct from the most fashionable, kindergartens. III.—Every teacher on starting with a new class or in a new locality, to make sure that his efforts along some lines are not utterly lost, should undertake to explore carefully, section by section, children's minds with all the tact and ingenuity he can command and acquire, to determine exactly what is already shown; and every normal school pupil should undertake work of the same kind as an essential part of his training. IV.—The concepts which are most common in the children of a given locality are the earliest to be acquired, while the rarer ones are later. This order may in teaching generally be assumed as a natural one—it varies however very greatly with every change of environment, so that the results of the explorations of children's minds in one place cannot be assumed to be valid for those of another save within comparatively few concept-spheres." It is plain to be seen that the whole tendency of child-study will be to recognize the individuality of each child, rather than to deprive him of his rights to individuality by treating him as the type of children in general.

The second essential process in the acquisition of knowledge is that of the elaboration of the individual data, resulting from close and accurate observation, into the legitimate structures of higher thought, the recognition or interpretation of the meaning of those individual data. This process follows very closely the development of language. Tracy, in his excellent epitome upon the "Psychology of Childhood" (p. 73) says: "Perhaps the most interesting thing of all at this time is the gradual" clearing of the childish concepts, as indicated by the steady circumspec-

tion of the application of names. Even yet, however, names are applied much too widely; much more experience is necessary before they acquire, in the young mind, a clear, definite connotation. (Even in mature life, most of our concepts are still very hazy and ill-defined; and it might be allowable to describe the whole process of intellectual education as a process of the clarification of the concept.) This clarification of the concept, which the psychology of childhood has shown to be necessary and desirable, is preeminently the final purpose of the work of instruction; it follows directly in the wake of full and accurate observation. I know of no means by which the teacher may be awakened to a full realization of the child's higher needs along the line of conception, judgment and reasoning, than a study of the relative accuracy of these processes, especially of conception which lies at the basis of the others, as revealed in the various modes of expression. A study of the child's application of class-words alone, from the first intelligible utterances of the infant up to the approximate mastery of the mother tongue, is in itself a wonderfully instructive and practical revelation of the child's mental evolution.

We have already noted that in early childhood, the scope and character of the child's activities, e. g. that of observation, depend very largely upon his emotional life. His interests determine almost wholly *what* he sees, and *how* he sees; now he disappoints our expectations, again he exceeds them, and we are often at a loss to account for a manifestation of power in one instance and its absence in the next. I believe the key to these differences lies in the child's peculiar interests. The emotional accompaniment of all thought processes in childhood is vastly different from that of the adult, of the teacher. It is no less the task of the instructor to guide and direct the development of the child's interests, for they condition directly the motives and indirectly the will, the attention and hence ultimately the character of mental effort in the acquisition of know-knowledge and the knowledge itself. The study of the child's emotional life, therefore, should seek to reveal the nature of his characteristic feelings and interests (which differ so widely from those of the adult) and suggest how these naive interests of childhood may be made to subserve the development of the

greater and more remote interests, which only years of educational effort can achieve. This child-study is seeking to do. The relation of the results of such investigations to the work of instruction is obvious. The teacher who cannot command the desired emotional accompaniment in instruction, who does not realize that the child's interests lie as fully, (if not more fully) within the scope of his efforts in instruction, as the child's knowledge, will fail to educate.

Finally the whole body of investigations upon childhood points to the fact that the most vivid perceptions and memories are associated with self-activities.—a fact which demands not only that education proceed early along the lines of motor activity, as in the kindergarten, but that the entire intellectual development aim to stimulate the child's self-activity. The relation of will-training to both muscular and brain activity is one of the vital problems of education.

Let me briefly note one more bearing which child-study will undoubtedly come to have upon instruction indirectly through the curriculum. One line of child-study has been directed especially toward establishing the succession in which the mental powers of the child unfold, from birth to adolescence, and the relative prominence of those faculties that unfold simultaneously. The results of these investigations have as yet established no invariably valid laws; yet, in general, I believe they offer safer guides for the *succession* of the materials of instruction than the principles heretofore determinative. The latter have been merely the logical succession in the subject and the relative ease of acquisition,—principles which disregard almost entirely the emotional and intellectual status of the child upon entering school. We have already noted the claims of certain *physical* aspects of the periodicity of growth from infancy to adolescence to recognition in instruction; their influence should be equally recognized in the curriculum. The periodicity of mental growth, though not yet definitely determined, is still already sufficiently understood to exert an influence upon the construction of the curriculum. Furthermore child-study has shown that there is an evolution in the child's mental life, beginning with the period of infancy, characterized by the conscious reception and reproduction of sense-impressions from the outer world, followed by periods of

vivid often capricious imagination, of strong powers of mechanical memory and of the unfolding understanding, and finally of the maturer powers of the understanding and judgment. We see that the will, by gradually getting *conscious* control over what are at first merely impulsive, reflex or instinctive motions, develops the power of "ideational movements" or "action", *sensu stricto*, "an *expression* of the conscious self" (Tracy, p. 56), and that these "expressions of the conscious self," in their moral aspects, also show successive stages of development, from the implicit trust of the earlier years of childhood, through the disagreeable conflicts of the individual will with the will of the whole, teaching the neccessary subjugation of the former to the latter, to that independent control of the will which enables the individual to determine his actions in accordance with his moral ideas. A similar evolution is being revealed in the emotional life of the child and the growth of his interests. This same evolution of the interests, and of the will-power is likewise manifested in the child's efforts to give physical expression to the imaginative creations of the inner life; we observe the harmless, but changeable and flexible plays of childhood merge into the more earnest desires to create something of value and permanence, or into the more energetic and heroic sports and contests of adolescence. The recognition of these successive phases in the child's development places us at the threshold of one of the unsolved problems of the curriculum. What shall determine the succession of materials in instruction? Can the evolution of the child's own cognitive emotional and volitional powers furnish the key to it?

Finally, if it is possible for the preliminary study of each individual child to serve in some measure as a basis for intelligent and sympathetic work in instruction, it is equally possible for the results of the instruction itself to add their quota toward solving the problem of what the child *is* and is *becoming*. The importance of the laws of growth and habit, both to the study of the child and to all educational measures, demands that the teacher be cognizant of evidences of development and habit in the child *during* the act of instruction. In fact, it will be impossible fully to determine just what aid to expect from child-study, until this phase of its researches be systematically undertaken and carried out. It will be impossible to determine fully and definitely in how far paidology should affect any system of education until it includes

among its data careful and systematic records of class-room observations in each branch. This field, perhaps, is the one to which child-study has given the least attention, although it has been approached by the Normal School at Worcester, Mass. We need observations that will answer the comprehensive question: How does the child react upon the various materials of instruction and how does this reaction harmonize with the other results of paidology? If the child during instruction works under conditions favorable to spontaneity of action, if his activities find free and unrestrained play, such observations should be doubly valuable, for they are made under natural conditions. E. Harlow Russell found that a great deal of the questioning of children for the express purpose of getting at their exact mental status, tended to thwart the attainment of its very purpose by throwing the children out of their natural mental equilibrium so that they reacted upon the questions with replies that were more or less mechanical, fictitious, self-conscious or otherwise distorted. Such results are more or less characteristic of all similar investigations of the child made under unnatural and constrained circumstances. They are undoubtedly invaluable, but they need the corrective influence of observations made under free and natural conditions. Now where can the spontaneous activity of the child's emotional and volitional character or his powers of perception, imagination and logical thought be more fruitfully and accurately observed, than when he is brought into free and sympathetic contact with nature in his science studies, or with the heart of humanity in history and literature. The pedagogical seminary of Rein at Jena, which regularly undertakes the analysis of the thought-circle of each child in the entering classes, has found such observations to be a wholesome corrective of the inaccuracies and deficiencies of the analyses. We see, therefore, that paidology not only bears upon the work of instruction, but the work of instruction also bears equally upon paidology.

In conclusion, I believe we may well say that the immediate, practical returns of child-study to the teacher, are well worth the considerable effort it will undoubtedly cost him. But the effort will unquestionably be heartily and devotedly given, if we can but grant him the opportunity to throw off a little from the quantity of his load, that he may add to its quality.

"SOME SOCIAL ASPECTS OF CHILD-STUDY."

BY PROFESSOR DAVID KINLEY,
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There are some who believe that social action cannot be teleological; "who maintain," as Lester F. Ward puts it, "that civilization can only be achieved through the action of the individual, *unconscious* of the end, doing that which will conduce to the end." If this were true, it would be a logically necessary corollary that social progress would be synonymous with social evolution and that social reform would be impossible; for the denial of the possibility of social teleological action would imply, not indeed that what I may call artificial selection is impossible in society, but that it cannot be so directed as to produce a preconceived ideal. If this position is sound, child-study and kindred branches of investigation would possess only a Platonic, and not a practical, interest. There is, however, another and a growing school of thinkers, whose views seem to the present writer more true, who hold that constructive social progress is possible; that men may by inductions from facts formulate laws of social growth and may so direct social forces under the operation of these laws as to cause society to develop in a preconceived way to a foreseen goal. To those who hold this belief it is of the greatest importance to collect all possible data concerning the nature and development of man.

Two schools of biologists, which may be represented by Mr. Herbert Spencer and Prof. Weismann, respectively, are at odds as to the transmissibility of acquired characteristics, especially mental and moral. If Prof. Weismann is right in his assertion that such characteristics cannot be inherited, the problem of social reform becomes simpler, indeed, from the scientific side, but vastly more difficult from the practical. For whereas otherwise the reform and elevation of a class in society could be accomplished by the training of a single generation, under his view hereditary influences will not tend to perpetuate the higher character acquired

by one generation from a course of reformatory training. But whether Mr. Spencer or Prof. Weismann be right I venture to say that there is a set of forces with which the biologist as such cannot deal. They are psychological. Sociology "rests naturally and safely," to quote Dr. Ward again, on psychology, because "the dynamic department of psychology becomes also that of sociology the moment we rise from the individual to society. The social forces are the psychic forces as they operate in man. "Hence the data of psychology, especially of objective, or experimental, psychology, and particularly as relating to children, have a great importance for the sociologist and economist.

Although an elaboration of the general relation between psychology and sociology might be interesting, there are three lines of sociological investigation on which the study of child-life may be expected to throw some light, to which I wish especially to invite your attention: first, the relation of child-study to Social Pathology, or the study and treatment of the dependent and delinquent classes,—in short, its relation to the study of the causes and cure of pauperism and crime; second, its bearing on the determination of the influence of existing social, especially industrial, institutions, such as the factory system, on physical, mental and moral character; and third, its connection with pure sociological and economic theory.

In the department of social pathology there are many unsolved questions of scientific interest and practical importance. The kind of data which the sociologist requires is similar for each of the classes of dependent and delinquent persons, so that those relating to criminology may be taken as illustrating both.

Among the important criminological questions are these: Is there a distinct criminal class? Or, at least, are there certain well defined characteristics, physical and other, the possession of which is accompanied by a tendency to criminality? Are they hereditary? Can they be eradicated, or modified, by proper training?

There is a growing agreement among expert criminologists that the true view of the congenital criminal is that he is a person who is organically morbid. He exhibits certain pretty well

defined peculiar traits of body and mind. Similar traits occur, of course, in non-criminals; but in these they seldom, if ever, appear grouped in the same person. So confident are some students of crime that these traits form a type that Garofalo, speaking of them, says: "One has but to go into a prison, and by the aid of this description one can distinguish almost at a glance those condemned for theft from those condemned for murder." The description to which he refers is that given by the distinguished Italian, Lombroso, professor of medical jurisprudence in the University of Turin. Lombroso describes the typical murderer as having a cold, concentrated look, an eye frequently injected with blood, long ears, powerful jaws, widely separated cheek-bones, crisp and abundant hair, well developed canine teeth and thin lips. The thief he describes as having great mobility of countenance, small and restless eyes, thick eye-brows which meet, flat nose, and low and retreating fore-head. Marked physical, especially cranial, asymmetry is also a common characteristic of the criminal. Of mental and moral abnormalities which mark the criminal, we may mention a lack of sympathy, lack of love of home, incapacity for feeling remorse, and invariable untruthfulness. The criminal shows an "incapacity to feel, or to act, in accordance with the normal conditions of social life." There is little doubt, especially among the members of the neo-criminological school, who are followers of Lombroso, that these traits are largely due, as I remarked already, to subjective causes; that, in the works of Dr. Wey, they are "the manifestation of a morbid psychological or pathological state, due to want of development or retrograde changes of motor and sensory areas of the central nervous system." Now it is probable that these characteristics are inheritable; at least that there is a tendency for the children of people who possess them to exhibit similar characteristics; that children show peculiarities which are indicative of criminal instincts. But the question is by no means settled.

In a paper read at the 2nd International Congress of Criminal Anthropology, held at Paris in 1889, Dr. Javerni of the University of Catania (Italy,) declared "that there is an inaptitude for education in infancy that is evidence of a natural pre-disposition to crime. We have met with cases and occasions where we could base a veritable scientific prognosis which has confirmed

the truth of this experimental doctrine. A methodical investigation has shown us seventeen children having this inaptitude for education, that we have foreseen with assurance they would become criminals. And they became criminals contrary to the expectation and belief of a number of savants who were obstinate in opinion that these infants were only backward in their education, and prophesied that they would succeed if their pedagogy was appropriate. In order to resolve the grand question as to the natural predisposition to crime, the science of criminology ought to demand critical experience of the pedagogic biology."

Other experts, however, differ widely with Monsieur Javerni, and the question of infant predisposition to crime, and of primordial forms and germs of crime as inherited aptitudes, are still, as I said, undecided. Here, then, is one field of investigation in child-study: To collect a sufficient number of physical measurements and observations of the psychological traits of the children of the defective, dependent and delinquent classes to determine this question finally. There is little or no doubt in the second place, that some, or all, of these characteristics when they appear in children, are modifiable by environment, using that word in its widest sense. Here again, then, the student of children has a field—to determine what kind of environment, what mode of training, what influences, should be selected and brought to bear on children who exhibit such traits, in order to change their character and, mayhap, save them for usefulness to society. In short, one of the most valuable contributions that could be made to sociological investigation would be a collection of data regarding children of various ages, showing physical abnormalities and corresponding psychological characteristics, the ages at which these manifest themselves plainly, and methods of training which have been successful in checking their development. We would then be in a position to wipe out a large amount of crime and pauperism by prevention. Until we get some such data, attempts at social reform must remain largely guess-work, for no intelligent constructive social action is possible. I may put the matter in another way: Some people deny that there can be hereditary paupers and criminals. They maintain that pauperism and crime are wholly the result of environment; that is, of education in its largest sense. Waiving discussion of this view, though not agree-

ing with it, the fact remains that every child, even if let entirely alone except as to being kept alive, if such a thing were possible, would develop traits of character, in some manner and in some order. What are these spontaneous characteristics? How are they manifested? How may they be controlled? These are questions the answers to which the sociologist must know if he is to have a clear understanding of the nature of the social organism or is to act intelligently and successfully in attempting to modify it.

Even the small amount of our present knowledge points us unmistakably and strongly, in a general way, to the proper kind of early education. We have been living too long in a fool's paradise in thinking that in our public school system we have the machinery for making boys and girls into men and women, "good citizens," as it is often put, by means of the merely intellectual training which is all that our public schools too often imply. The whole purpose and trend of the earliest education should be to *humanize* the child; not to stuff him with knowledge, but to develop in him the "social feeling," which is antagonistic to those abnormalities that I have described. There is no better means for this than the kindergarten, and the education of every child should begin in it. A recent report on the care of dependent and delinquent children in Massachusett says: "To all who have seen the developing process of Froebel's system for the average child, and who have marvelled at its rapid progress, it would be still more a marvel to witness the unfolding of these little *animals*, as they seem when admitted, into bright, active human beings." The kindergarten should be a part of the public school system of every city and town. Yet there are intelligent citizens—or shall I say "*otherwise* intelligent citizens?"—who begrudge the expense of paying teachers to spend time with children in "playing with them bits of stick and colored paper."

The second point to which I wish to call your attention is the bearing of child-study on the matter of determining the influence of certain social institutions, such as the factory system. One of the greatest forces in the industrial development of the century has been the division of labor. Through it, other things being the same, the production of wealth is largely increased, new

avenues of production are opened and a minute classification of workers according to physical and mental capacity is made possible. The thought of men, in the last generation especially, has been that an increase in the production of wealth would necessarily increase comfort, on the ground that the more wealth to be divided the more each one could have. Consequently the adoption of any means that would increase the product was deemed justifiable; hence child-labor became a feature of industrial life. There is neither time nor need here to recall the horrors which in England, and in this country too, sprang from its introduction, the record of which will stain forever the industrial history of the century; how babies of three, four, and six years of age, were herded in factories and mines, compelled to work twelve and thirteen hours a day,—to the point of physical exhaustion,—and grew up, "if they survived at all, weak, bloodless, miserable, and in many cases deformed cripples, and victims of almost every disease." In more recent years, however, a higher test of economic progress has been adopted. It is now seen that increase in mere wealth may be gotten at too great a cost, and the social conscience is now demanding that the welfare of the little workers shall be considered before the increase in dollars' worth of goods. This necessitates a searching inquiry into the psychological and physiological effects of any given line of work on the children who are employed in it. The statistics already gathered on this subject convey a very vivid impression of the great evils that flow from the employment of children in certain industries, and, indeed, in any industry if proper care be not taken to adapt the work to the capacity of the child. Certain kinds of work are from their very nature injurious to children; other kinds are so under wrong conditions. In order that society may frame laws for the prevention of injury to children in wrong employments, and for the regulation of their work in permissible employments, it is necessary to know the physical, mental and moral effects of different kinds of work, and of similar work under different conditions. The work of which Dr. Holmes was to tell us last night is, I presume, exactly of this kind. We need more of it for intelligent social action. We must be able to answer such questions as: What kinds of work should be forbidden to children? What conditions must be

insisted on in this work or that? Does this employment injure the child positively? Does it interfere with growth in mind or body? Is it demoralizing? Is it mentally narrowing? These and a score of other points we need light upon. Of course the same remarks apply, in a degree, to adult workers, and it is unfortunate that so many of our people take so narrow a view of social duty and responsibility in such matters. The opposition to the recent legislature regulating the employment of women and children is a matter for regret, at any rate so far as it is based on the ground that all such legislation is, and implicitly should be, unconstitutional. The worship of the fetish legality is a stumbling block in the way of progress, and it is a pity if the people of any state erects a barrier that prevents it from action promotive of its general development.

The last aspect of child-study as related to social problems, to which I wish to call your attention, is its connection with sociological and economic theory.

During the past fifteen or twenty years Sociology has been studied to a large degree as a department, or extension of Biology. The influence of the material, or objective, environment, which is nature, on the individual and on society, has been the object of more or less careful examination; and much light has been thrown on the mode of social elevation and progress. Darwinism has been made the basis of social science. It is now pretty clear, however, to the most progressive thinkers that what biology has done for sociology is simply to teach the *method by which objective natural forces act* to modify the individual and the social organism, but it has told us little or nothing about the forces themselves,—what they are, what is their nature and their origin. These forces are partly objective, or nature; and partly subjective, or the phenomena of the mind. The study of the former belongs to the physical sciences; that of the latter to psychology. The former are the ones of which most is known; the latter are to-day a subject for renewed, interested, vigorous study. When physical science has told us all that can be known of the character of the objective environment, psychology all about the subjective, and biology has fully shown their methods of action, sociology will have the materials necessary for constructing a perfect society! That will not occur by the year 2000!

The point of all this is to emphasize the renewal of sociological interest in psychological study. The sociologist wants to know all about human nature, especially child nature, as a basis for constructive action. The same is true in the department of pure economic theory. Formerly economics was the science of *wealth;* that is, it was the objective,—a physical science. To-day it is the science of *man*, with reference to wealth. In the fine words of Roscher, its starting point, and its objective point, is man. As a physical science, it emphasized the physical laws governing the production of wealth. In the language of the books, its main subject of discussion was production, or supply; to-day, its basal inquiry is as to consumption, or demand. What kind and quality and quantity of commodities are to be produced? The question is determined by the character of the demand. What determines the value of goods? Mainly, demand. And so on. Now demand depends on human nature, on the plane of human progress, individual and social; in short, largely—mainly, indeed beyond certain limits—on subjective or psychological forces. Hence the theoretical economist is asking such questions as these: How are new wants developed? How can we measure pleasure? How can we determine the point of satiety and of maximum satisfaction in the use, or consumption of wealth? What is the order of evolution of wants or desires? What is the law of satisfaction from consumption? Is there a periodicity in the appearance and intensity of wants and of satisfaction? If so, what are its laws? I might mention more but these serve the purpose of illustration. Obviously much light would be thrown on all of them by a long and careful series of studies of child nature. The laws of economic consumption connot be inductively established without them.

In all these matters the interests of the psychologist, especially of the student of child nature, are identical with those of the sociologist and the economist.

I might mention other social problems in the solution of which child-study plays an important part. Indeed, the sociologist, like the good churchman, claims jurisdiction over every individual subject. The great problem of educational method is itself a sociological question, and the subjects which I have presented to you are, in one view, but topics under it. It is a cheering sign that after years of weary discussion about a new education that

isn't new at all; about a revolution in education, which has been periodic in the history of civilization; about the formulation of methods of study of special subjects on the basis of a "scientific" presentation of the subject matter; after all this, I say, it is a cheering sign that within the past few years we have been more and more turning our attention to the study of the subjective element in the problem of education,—the child himself. Our methods hitherto have been, so to speak, objectively adapted; they are becoming more and more subjectively adapted. Our mistake has been like that which a fireman would make if he bent his efforts merely to adjusting his hose so as to get the largest and most forceful stream of water, and paid no attention at all to the burning building to see where the water was most needed, or how it could be best directed. The study of the human element, of the boy and the girl, should bring results of use not only to the educator, but to the sociologist, the economist and the statesman.

THOUGHTS SUGGESTED BY A STUDY OF THE MENTAL DEVELOPMENT OF THE BLIND.

BY PROFESSOR FRANK H. HALL, WAUKEGAN.

To one who would make the attempt to obtain psychological light out of the darkness in which the blind are enveloped, three preliminary considerations are important.

First,—Comparatively few sightless people were blind at birth. A large majority of those found in the state educational institutions, lost their sight by accident or by disease after many years of perception by means of vision. Out of 185 pupils in the Illinois Institution examined by Dr. Arthur E. Prince in Jan. 1892, only 13 per cent were congenitally blind. If to these we add the 24 per cent whose blindness was caused by ophthalmia neonatorum, we have 37. 6 per cent who have never enjoyed perception through the sense of sight.

If we take into the account all the blind in the state, old as well as young, the congenitally blind plus those who lost their sight in early infancy, would not exceed 10 per cent of the entire number.

Second,—Since blindness caused by ophthalmia neonatorum, is usually the result of neglect or ignorance, and since gross negligence would more frequently occur among the less intelligent classes, it is fair to assume, and observation confirms the correctness of the assumption, that this 10 per cent will not compare favorably in hereditary intellectual power with the same number of children having unimpaired faculties.

Third,—The conditions that have resulted in blindness, have, in many cases produced other defects, so that congenital blindness is often accompanied with physical and mental weaknesses that are more serious obstacles in the mental developement of the child than blindness itself.

From the foregoing it will appear that only a small per cent of the blind—perhaps from 3 to 5—belong to that class of whom it may be said that they have never had sight and are normal in all

other respects, and are therefore the most desirable subjects for examination by one who desires to note the most marked effects of blindness upon mental development. It is this class, then, that I shall, for the most part, have in mind in this brief presentation of the characteristics of the blind.

1. It is a well known fact that the sense of touch in the finger-tips of the blind becomes developed to a very high degree.

The intelligent blind child not only reads with his fingers letters slightly raised, but when the conditions are favorable he reads when eight or ten thicknesses of a silk handkerchief intervene between the finger and the printed page. He notices slight differences of surface; whether clothing is soiled or clean; whether paper has "ink print" upon it or is plain, etc. He observes differences in the texture of cloth. He recognizes his play-mate by a single touch of the garments. Little Edith Thomas, one of the deaf and blind children in the Perkins Inst. at South Boston,with whom I had spent an evening,recognized me next morning by a single touch of my coat sleeve. Helen Keller reads lips by touch. With her fingers upon my lips, I, a stranger, asked, " Do you know Mr. Wade?" With great promptness and with sufficient distinctness to be readily understood, she replied. "Yes, yes, I know Mr. Wade."

This however is worthy of remark: Those parts of the body, and those only, seem to be unusually sensitive that are brought into frequent use for the purpose of perception. The boy who does all his reading with the index finger of one hand, is usually "blind," or nearly so, in his other fingers, so far as reading is concerned. John Egan lost the tip of his "reading finger" by a felon. Another finger must be educated. It would seem then that the skill of the blind in the use of the finger tips is simply the result of continued effort, and that the seeing child would accomplish as much were the inducements as great.

2. The sense of hearing becomes developed to a remarkable degree. In every Institution for the blind that I have visited there are pupils who recognize absolute pitch. Very young blind children do this. They seem to have the power of analyzing instantly a chord or even a discord, and noting the elements of which it is composed. A new chime whistle was attached to one of our boilers. Several pupils were asked separate and apart

from their fellows,—"What is the pitch of the new whistle?" There was almost perfect agreement in the answers of the best trained pupils. "There are three tones, sir; one is A; another is C slightly sharped, and the third is E just a little flat." The blind hear and interpret so far as possible every sound. Indeed in this way they "take their bearings." The sounds that come to them through open windows or doorways—the slight echoes from the buildings along the street, or even the echoes of their own foot-falls from the walls of a room, guide them in their attempts to find their way about. The testimony of a blind man on this point is,—that as a boy he could easily make his way about the barns and out-buildings of his own home; but put a basket over his head, and he was lost. He could no longer see—with his ears! The same man now goes alone over the city of Jacksonville. He experiences less difficulty on Sundays than on other days, because on that day the noise made by wagons upon the pavements is less. If he carries an umbrella, he carries it high and even then the noise of the rain drops striking it, will sometimes cause him to lose his way. I am convinced that the great skill shown by the blind in moving from place to place is very largely the result of a more perfect interpretation of the sensations that are conveyed to the brain by the auditory nerve. Without doubt the seeing child would accomplish as much in perception by sound, if he would as persistently attempt to do this.

3. The "chemical senses," taste and smell, have so little to do with mental training that it is not necessary to consider them in this discussion. Sense-perception, the basis of thought, comes to the normal child, *for the most part* through *three avenues.* It comes to the blind child through *two* only, the tactile sense, and the sense of hearing. An authority has said that the sense of sight gives rise to nine-tenths of all our sense-perceptions. Assume that the increased activity and delicacy of the senses of touch and hearing in the blind serve to multiply by three the amount of sense-perception contributed through these two avenues, and our blind student can possess only three-tenths as large a stock of sense concepts as the child with unimpaired faculties. Upon this narrow base he must build. *Yet he builds*; and in some respects the structure is remarkable, though strictly of course in accord with psychological law.

Indeed, had there never been an educated blind man, a psychological expert would have been able to predict with some degree of accuracy the kind and quality of brain power that could be developed in darkness.

RESULTS.

Let us note, then, some of the results of attempts to educate a class, the sum of whose sense-concepts coming as they do, mainly through two avenues, at best cannot exceed three-tenths of the normal amount. Let it be conceded, too, that here as elsewhere mistakes have been made. The most serious error, as it seems to me, grows out of a very common notion among the teachers of the blind, and the blind themselves, that the work done in the schools for the blind should resemble as closely as possible the work done in schools for those that have sight. They would, so far as conditions will permit, completely ignore the fact that the pupils are defective. They assume that what is good for a boy with his eyes wide open, is good for a boy with his eyes shut; that what is enough for a seeing boy, is enough for a blind boy. They overlook, in many instances, at least, the fact that because a child is blind his greatest need is such environment as will make a larger amount of sense-perception possible; that he needs this many times as much as the seeing child needs it. It is true that the Kindergarten and observation-work have been introduced into the best schools for the blind. This is an important step in the right direction. But, too often, the teachers attempt simply a part of the work done in schools for the seeing. They should do many times as much as is done in such schools. Is the seeing child sometimes allowed to use and required to memorize words that are to him devoid of content? How much greater, think you, is the liability that this will occur in a school for the blind? Does the child with unimpaired faculties need "observation lessons" in order that the words which he hears and speaks may not be meaningless symbols? What shall we say of the child whose natural perceptive power is divided by ten? And yet I say, without fear of contradiction, that there is no school for the blind in America—in the world—in which as much time is devoted to sense-perception as is devoted to that subject in the Cook County Normal School!

But what is the result of this attempt to educate without any adequate effort to supply what would seem to us to be a necessary stock of sense-concepts? Here it seems to me, is the interesting, the instructive, the valuable part of the whole lesson. Vastly more is accomplished than one would at first think possible. The defect from which the blind suffer in no way interferes with the action of the representative and reflective powers. Indeed the blind child has very much more time for reproduction and reflection than does the seeing child. The few sense-concepts which he possesses, he examines from every possible mental standpoint. He compares them. He sees the relation of the new concepts to each other and of the new to the old. He has ample time for and delights in the exercise of apperception. He suffers on account of the abnormal limitation of his perceptive powers; but somewhat of compensation comes to him in his greater activity in apperceptive efforts. While *I* am occupied with new and attractive sense-concept, *he* is reproducing and comparing and modifying and classifying the old.

One of the results of this frequent reproduction and recognition of concepts, is that the blind child has a most excellent memory. This is especially noticeable in the ease with which he remembers names and figures, particularly dates, and the order of things or events. A blind boy in the Illinois Institution, much below the average in mental and physical ability, remembers every date in the United States History which he studied. Indeed he seems to have a remarkable appetite for dates. He would come to the office with the question, "Mr. Hall, are you busy?" "Not very busy, Bismarck, what can I do for you?" "Will you please give me a few dates?" If I gave him ten or twelve dates that were new to him, he was sure to return next day to exhibit his power of retention and ask for more. A blind boy ten years old who spent two weeks with me in Waukegan not long since, learned in a quarter of an hour the name of every teacher in the city and associated the name with the position occupied by the teacher. I have known a pupil to multiply a number consisting of eight figures by another number consisting of eight figures, carrying forward mentally each partial product and uniting it with the product already obtained until the sum of all the partial products was found. (Do not think, my fellow-teachers, that I

encouraged work of this kind). There is a marked tendency in schools for the blind, as there is in some other schools, to move along the lines of least resistance. It is easier to lead the blind child to exercise his mental powers in "juggling with figures" than it is to provide the environment that will enable him to obtain new sense-concepts. Moreover, in all schools for defectives, there is the constant temptation to engage in the production of unsymmetrical prodigies whose performances shall delight their friends and astonish visitors.

Because of the active memory of the intelligent blind child, because of his power quickly and easily to reproduce and recognize any concept that has once had a place in his consciousness, and especially because of his very large amount of exercise in the reproduction of concepts that re-appear in his consciousness at the call of their audible symbols, he becomes a most excellent listener. Spoken words seem instantly to bring back to consciousness the concepts of which they are the signs. Thus it often happens, as I believe, that the concept panorama that appears in the mind of the blind child, as he listens to the reading of some literary production, is much more distinct and elaborate than the seeing child's panorama. The coloring would be wanting in the blind child's picture, but the greater distinctness and clearness of the mental images would more than compensate for the absence of color. His stock of concepts may be small, but *they are immediately available.* His mental capital may be limited but it is *always at hand ready for investment.*

The blind child exercises with unusual promptness and skill his power of constructive conception. He may not be able to build in so great variety, but, as far as his materials will permit, he builds much more rapidly and accurately than does his seeing competitor. It was once my privilege to teach physics to a class of eleven blind boys. The text employed was Avery's. I had previously taught not less than six classes of seeing pupils, from the same text. I am compelled to say that no one of the six classes accomplished more in nine months than did the blind boys. Very many of the experiments they performed themselves, with no more breakage of instruments than would ordinarily be expected in any school. The one thing that especially surprised me was the readiness with which they obtain a conception of a

machine from an oral description of it. Little repetition was necessary. They could "see" a diagram from a verbal description of it, almost as easily and quite as accurately, as the pupil with eyes could do it with the diagram before him.

Only one of the eleven boys was blind from birth. This one was above the average of his class in intelligence, and a good student. But I was unable to interest him in optics. The other members of the class worked faithfully through the subject, though their zeal was manifestly less than when we were giving our attention to the facts and laws of acoustics. But Frank, the congenitally blind boy, my usually attentive, ever-on-the-alert Frank, frequently nodded, his sightless eyes closed and his chin rested on his breast, while we were talking about the solar spectrum, lenses, and conjugate foci. I let him sleep. Why not? No human power could provide him with the fundamental concepts necessary to make an intelligent beginning in the study of optics!

To me the work of blind pupils in geometry was a very instructive lesson. Their conceptions of angles and diagonals and radii are obtained by representing these with wire staples upon a cushion. With these staples they construct their figures. Circles are represented by paper placed upon the cushions. Pinheads make the letters. But the successful blind student soon pushes the cushion from him. He can construct mental diagrams more easily, more accurately and much more quickly. His very defect leads him to a higher grade of work. He looks at the diagram with the mind's eye, not with the finger tips; and his conceptive power is developed to a remarkable degree.

During the first year of my work with the blind, I thought to interest and benefit the high-school pupils by the construction of an immense chronological chart of general history, after the fashion of the printed charts. Accordingly I ordered a very long pine board to be fastened to the wall of the high-school room. This I divided with rows of round-headed brass nails into six parts, each part representing one of the thousand-year periods of human history. By means of nails so driven as to form "point letters," I represented upon this chart Adam and Noah and Abraham and Solomon and Christ and Alfred the Great and President Harrison. By lines made up of nail heads, I represented

the lives of some of the principal nations of history. For a time the pupils manifested great interest in the "new method of studying history." But soon their interest in the method—not in history—began to wane. They did not seem to make any use of the chart as a mnemonic aid. In fact they did not need it. At length light began to dawn upon me if not upon my pupils. *I* saw the chart as a whole—could take it in at a glance; afterwards I saw it analytically. *They* could not feel it as a whole. The sense of touch always operating synthetically and slowly, required too much time for getting from part to part, to make the chart as a whole of any value to them. Moreover, they could construct mental charts faster than I could make material ones out of pine boards and brass nails; and when their mental chart was completed they could find their way from one end of it to the other faster than they could feel their way across my chart. As well give me a coach and four with which to ascend a flight of stairs, as to give a blind boy a chart to help him remember dates.

To recapitulate:

1. Sense-percepts, the basis of soul-life, must come to the blind child mainly through two avenues; to the seeing child through three avenues.

2. Under normal conditions the two avenues together contribute only about one-tenth of the total amount of sense-perception; the one avenue which to the blind child is closed, nine-tenths.

3. By a more perfect development of the tactile sense and the sense of hearing, the blind child succeeds in multiplying the normal product of these senses by two, possibly by three.

4. Therefore the child educated in darkness can come into possession of from two to three-tenths only of what would seem to be the desirable supply of "the elements of soul-life."

5. Yet with this small amount of crude material more perfectly digested, he surprises—nay, startles us sometimes—with exhibitions of his intellectual power.

6. When we attempt to account for his unusual ability along certain lines we discover (a) that he calls into consciousness any former concept with great facility, and (b) that all his mental possessions have been classified and labeled; that he has discovered the reciprocal relations of concepts; that he has perceived, compared, apperceived.

Now while I fully realize that the blind child's intellectual height and depth may be, certainly are, secured at the expense of breadth, I cannot escape the suggestion that in the education of seeing pupils we may be in great danger of sacrificing height and depth to mere breadth. One may eat and eat and become no stronger. One may read and read and acquire but little wisdom. So one may perceive and perceive and not become thoughtful. Digestion and assimilation are as necessary in the latter case as in the two former cases.

In the Old Education we often required our pupils to read and memorize words that were empty of thought. To correct the error the New Education provides for observation lessons and the cultivation from the first of the perceptive power of the child. The pupil perceives, thinks, and expresses his thought. Words become really the signs of ideas. His sense-experience is greatly enlarged and he becomes richer in the "elements of soul-life."

The suggestion,however,forces itself upon me that the advocates of the New Education, may attach too much importance to the *amount* of perception. The mental power of the intelligent blind man—wrought out with less than one-third of the normal amount of the "elements of soul-life" is, to say the least, significant. Perception occupies time; so do reproduction, comparison and reflection. Do not the shortness of life and the law of symmetry alike suggest that the sense-percepts sought after should be those and only those which are worthy of reproduction and comparison, and that no moment of time needed for comparison and reflection should be occupied in perception?

Possibly some one may reply, "Life is not short. Life is everlasting. We educate for eternity." Granted. But efficiency is the desirable thing all along the line. That culture is most needed which makes one most useful to his fellows. Let there be as much of breadth as is compatible with utility; as much of height and depth as will contribute to efficient service.

MEASUREMENTS OF ONE HUNDRED SIXTY CHILDREN FROM CHICAGO FACTORIES.

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In order to understand the value of this report a word is necessary in regard to its origin.

The Illinois Factory Laws became operative in July, 1893. One of the provisions of this law excludes from factory labor all children under fourteen years of age. An affidavit of age must be kept on file in the factory for each child between the ages of fourteen and sixteen. In order to further protect the child from the greed of the manufacturer and the avarice or necessity of parents, the factory inspector is at liberty to demand a certificate from a physician that the child between the ages of fourteen and sixteen is physically fit to perform the labor of the factory. It was in the execution of this last provision of the law that the measurements here presented were undertaken. The scheme of measurements is attached.

STATE OF ILLINOIS.

Medical Examinatiion of Children in Factories and Workshops.

Date.....

Name.....

Address.....

Sex.....

Age: years.....months.....

Birthplace.....

Where Employed.....

Kind of Work.....

How long have you followed this occupation?.....

Occupation of father.....

Birthplace of father.....

" of mother.....

Father died of .....

Mother died of .....

Are you your Mother's 1st, 2d, 3d, 4th, etc., child? including deceased brothers and sisters .....

General health: { *Past:* Good, fair, poor. *Present:* Good, fair, poor.

Have had of the following those checked (✓):

Boils	Varicose Veins .....
Quinsy Tonsilitis.....	Skin Eruptions .....
Asthma.....	Chronic Diarrhœa.....
Pleurisy	Bleeding at Nose.....
Jaundice	Shortness of Breath .....
Dizziness	Palpitation of Heart.....
Sleeplessness	Colds in Head or Throat.....
Habitual Headache.....	Enlarged Glands in Neck .....
Habitual Constipation	Enlarged Glands in Groin.....
Injuries, etc	Phthisis.....
Rheumatism.....	Syphilis .....
Dyspepsia.....	Typhoid Fever .....
Dysentery.....	Scarlet Fever.....
Bronchitis.....	Diptheria .....
Pneumonia	Measles.....
Neuralgia	Mumps .....
Paralysis.....	.....

Status Presens:

Heart.....	Lungs.....
Skin.....	.....
Weight, with clothing,.....	**Girth,** forearm, R.....
without clothing,.....	" L.....
Height, without shoes.....	wrist, R.....
sitting, without clothing....	" L.....
shoulder, R.....	**Depth,** chest .....
" L.....	abdomen.....

knee .....
public arch.....
navel .....
sternum.....
Girth, head .....
neck .....
chest .....
ninth rib.....
" full .....
waist .....
hips .....
thigh R.....
" L.....
knee, R.....
" L.....
calf, R.....
" L.....
ankle, R.....
" L.....
instep, R.....
" L.....
arm, R .....
" L .....
elbow, R .....
" L .....

Breadth, shoulders,.....
stretch of arms.....
hips. .....
Condition, spine.....
long bones.....
shaft.....
epiphysis .....
abdomen.....
knuckles.....
Condition, wrist.....
ankle.....
sternum .....
costal cartilages.....
Shoulder-Elbow, R.....
" " L.....
Sight, near .....
far .....
color blind.....
Hearing .....
" .....
" .....
Teeth.....
Finger Nails.....
Toe Nails.....
.....

.....**Examining Physician.**

It is practically the scheme used in the Bureau of Anthropometry in the department of Ethnology at the World's Fair. The same apparatus was used, namely, a Fairbanks scales, a seat to which was attached a graduated bar six and a half feet long. On this bar was a sliding perpendicular which could be brought down on top of the head or shoulder. A steel tape was used to get the circumferences. The measurements were made by four very devoted and interested persons. The measurements of the boys were made by my assistants, Dr. Manning and Dr. Wade Stevens. The girls were measured by Dr. Josephine Milligan and Dr. Rice. Probably the measures are more accurately

taken than the occasion required, but the expectation was always in mind that they would be utilized for scientific purposes. It was always expected, also, that any case might come into court and the measurements used as evidence, and perhaps require verification before a judge and jury. They are not as well taken as they would have been, had any of us been trained in anthropometry.

It will now be necessary to say a word about the selection of the children measured. The factory inspector, Mrs. Kelly, or her deputies found many cases where the parents had evidently made false affidavits of age. When the children were evidently under size or weight, or were employed at dangerous or heavy machines or in very unsanitary occupations or surroundings, they were told to come to the inspector's office for medical examination. If a careful examination and measurements there given sustained the opinion of the inspector, a certificate permitting work to the child in that factory or at that machine was denied. Over two hundred children were examined. Not all of them were measured completely enough for use in this study One hundred and sixty children were carefully and completely measured, 59 boys and 101 girls. Their ages were, as their affidavits testify, over fourteen years. Ninety-eight were between fourteen and fifteen, and the remainder between fifteen and sixteen years old. In chart I. the measurements are arranged according to the height. Some of the irregularities of the curves are due, no doubt, to errors in measurement. The curves are, however, very evident in this chart which shows the weight, height, stretch of arms, height of shoulder, height of sternum, height sitting, girth of chest, girth of head, girth of knee, girth of neck. Many other measurements were taken which are omitted on the chart in order to avoid confusion of lines. A great number of pathological conditions were noticed on the records.

Bad teeth.
Curvature of the spine.
Enlarged cervical lymph glands, and submaxillary.
Bowed legs.
Anæmia.
Rosary ribs.
Pot belly.

Rickety condition of bones.
Tuberculosis of lungs.
Recovered tubercular abscess.
Chorea.
Injured hands and amputated fingers.
Collapsed lungs.
Mitral regurgetant heart lesion.
Goitre.
Defects of vision.
Defects of hearing.

There were several cases where one shoulder was so much lower than the other that it was practically a deformity. A number of cases of tardy menstruation were noticed; though some allowance must be made for deception in stating the ages.

Chart II. is a summary of Chart I. and the average of the curves of that chart reduced to one-tenth as much lateral space as they formerly occupied.

I have not found anthropometry as helpful as I had expected in furnishing tangible data on which to base my judgment of the fitness or unfitness of children for factory labor. I have felt the need of a series of measurements, with maximum and minimum curves for the normal Chicago child, that had not been at work and could be looked upon as a type. Such measurements I have not been able to obtain. Such measurements should, it seems to me, be tabulated for each year or other time unit of life. Then these should again be arranged by some major unit, say height. It would be possible then to construct a chart which would show at a glance the normal, or average ratios of various measures to each other in children of any given age and height. This is really what the work undertaken by me during the past winter requires.

AN ACT *to regulate the manufacture of clothing, wearing apparel and other articles in this State, and to provide for the appointment of State inspectors to enforce the same, and to make an appropriation therefor.*

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That no room or rooms, apartment or apartments, in any tenement or dwelling house used for eating or sleeping purposes, shall be used for the man-

ufacture, in whole or in part, of coats, vests, trousers, knee-pants, overalls, cloaks, shirts, ladies' waists, purses, feathers, artificial flowers or cigars, except by the immediate members of the family living therein. Every such workshop shall be kept in a cleanly state, and shall be subject to the provisions of this act; and each of said articles made, altered, repaired or finished in any of such workshops shall be subject to inspection and examination, as hereinafter provided, for the purpose of ascertaining whether said articles, or any of them, or any part thereof, are in a cleanly condition and free from vermin and any matter of an infectious and contagious nature; and every person so occupying or having control of any workshop as aforesaid shall within fourteen days from the taking effect of this act, or from the time of beginning of work in any workshop as aforesaid, notify the board of health of the location of such workshop, the nature of the work there carried on, and the number of persons therein employed.

§ 2. If the board of health of any city or said State Inspector finds evidence of infectious or contagious diseases present in any workshop, or in goods manufactured or in process of manufacture therein, and if said board or inspector shall find said shop in an unhealthy condition, or the clothing and materials used therein to be unfit for use, said board or inspector shall issue such order or orders as the public health may require, and the board of health are hereby enjoined to condemn and destroy all such infectious and contagious articles.

§ 3. Whenever it shall be reported to said inspector or to the board of health, or either of them, that coats, vests, trousers, knee-pants,overalls, cloaks, shirts, ladies' waists, purses, feathers,artificial flowers or cigars are being transported to this State, having been previously mauufactured in whole or part under unhealthy conditions, said inspector shall examine said goods and the condition of their manufacture, and if upon such examination said goods or any of them are found to contain vermin, or to have been made in improper places or under unhealthy conditions, he shall make report thereof to the board of health, or inspector, which board or inspector shall thereupon make such order or orders as the public health shall require, and the board of health are hereby empowered to condemn and destroy all such articles.

§ 4. No child under 14 years of age shall be employed in any manufacturing establishment, factory or workshops within this State. It shall be the duty of every person, firm, corporation, agent or manager of any corporation employing children to keep a register in which shall be recorded the name, birthplace, age and place of residence of every person employed by him, them or it, under the age of sixteen years; and it shall be unlawful for any person, firm or corporation, or any agent or manager of any corporation, to hire or employ in any manufacturing establishment, factory or workshop any child over the age of fourteen years and under the age of sixteen years, unless there is first provided and placed on file an affidavit made by the parents or guardian, stating the age, date and place of birth of said child; if said child have no parent or guardian, then such affidavit shall be made by the child, which affidavit shall be kept on file by the employer, and which said register and affidavit shall be produced for inspection on demand by the inspector, assistant inspector or any of the deputies appointed under this act. The factory inspector, assistant inspector and deputy inspectors shall have power to demand a certificate of physical fitness from some regular physician of good standing in case of children who may appear to him or her physically unable to perform the labor at which they may be engaged, and shall have power to prohibit the employment of any minor that cannot obtain such a certificate.

§ 5. No female shall be employed in any factory or workshop more than eight hours, in any one day or forty-eight hours in any one week.

§ 6. Every person, firm or corporation, agent or manager of a corporation employing any female in any manufacturing establishment, factory or workshop, shall post and keep posted, in a conspicuous place in every room where such help is employed, a printed notice stating the hours for each day of the week between which work is required of such persons, and in every room where children under sixteen years of age are employed a list of their names, ages and place of residence.

§ 7. The words "manufacturing establishment," "factory" or "workshop," wherever used in this act, shall be construed to mean any place where goods or products are manufactured or repaired, cleaned or sorted, in whole or in part, for sale, or for

wages. Whenever any house, room or place is used for the purpose of carrying on any process of making, altering, repairing or finishing for sale, or for wages, any coats, vests, trousers, knee-pants, overalls, cloaks, shirts, ladies' waists, purses, feathers, artificial flowers or cigars, or any wearing apparel of any kind whatsoever, intended for sale, it shall, within the meaning of this act, be deemed a workshop for the purposes of inspection. And it shall be the duty of every person, firm or corporation to keep a complete list of all such workshops in his, their or its employ, and such list shall be produced for inspection on demand by the board of health or any of the officers thereof, or by the state inspector, assistant inspector, or any of the deputies appointed under this act.

§ 8. Any person, firm or corporation, who fails to comply with any provision of this act shall be deemed guilty of a misdemeanor and on conviction thereof shall be fined not less than three dollars, nor more than one hundred dollars for each offense. Said inspector, assistant inspector and deputy inspector shall be empowered to visit and inspect, at all reasonable hours, and as often as practicable, the workshops, factories and manufacturing establishments in this State where the manufacture of goods is carried on. And the inspectors shall report the result of the same to the Governor. It shall also be the duty of said inspector to enforce the provisions of this act, and to prosecute all violations of the same before any magistrate or any court of competent jurisdiction in the State.

MENTAL ABNORMALITIES IN CHILDREN DURING PRIMARY EDUCATION.

BY DR. ADOLF MEYER.

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From the point of view of the alienist, education has a twofold end: the formation of a steady character and the acquirement of such training and knowledge as the struggle of life requires from and allows to a child of a certain talent and ability. In school education, the personal disposition of the child is unfortunately but little considered practically. On the whole, education is imposed on the child without much consideration of the individual needs, because the whole plan of education so far has been guided largely by the theoretical question, what should the average individual know in order to be successful? The most important and most difficult question, the question of the disposition of the child, is answered by a conventional standard of so-called experience. Your meeting merits compliments for being an attempt to investigate what experience in this direction means, and not what can be done toward establishing *one* standard, but toward ascertaining in every case the standard of the individual child.

The school reform and school hygiene has done much in the line of study of *defects* of old systems. This *new* enterprise seems to be more radical; it seems to be *not* merely critical, but an attempt to construct an altogether new foundation for the work, based on scientific, exact methods and prepared on the most extensive scale I know of. The problem as initiated by Professor Krohn is not merely the question: How can we mend the old system; but it means: What can we do in order to obtain a solid basis and scientific data for the study of the mental development of the growing child, to collect facts that show exactly what the child's mind is able to do; and where educational efforts might begin to do harm. When I was asked about a

fortnight ago to address your distinguished meeting, I did not feel quite equal to the task, but finally concluded that what I have to say, could not find a better audience and that it is my duty to speak of a manifold active and passive experience that I could gather during the 18 years spent as a pupil of various schools and since then in professional life and as a teacher. I had the personal disadvantage of a school system that brought out clearly enough the ignorance of legislators and even of school men of reputation with regard to the scope and energy of a child.

I obtained my early education at Zurich, in that State of the Swiss confederation which, many years ago, prided itself on having the *best* Public School System. When I passed through those schools, the period of decay and of experiments was flourishing. Every year brought some new addition to the scope of learning, and the teachers and the pupils had to suffer under the lack of rational limitation of work. School reform was preached all the time; new laws were proposed but rejected by the votes of the many-headed sovereign of the Swiss Republic who had lost confidence in the learned bodies that had made the laws. I followed the movement with much interest and could not help being surprised by how little attention was paid to the child. The one thing seemed to be certain, that the teachers could not force all the curriculum into the short time allowed. The remedies provided were extension of primary education from the seventh to the fifteenth year instead of the thirteenth, with an average of between 26 and 30 hours of instruction a week. The college or gymnasium course which took six years and a half at my time, with 33 hours a week, was proposed to be prolonged to seven years. This prolongation was especially favored by the teachers who hoped to be able to take the pupil through as elaborate a program of their beloved specialities as possible. The question of a reduction of the program was scarcely agitated. After a long period of working and planning over this law, the vote of the citizens vetoed the new propositions. There was a vague feeling that things were not right—and the result of the vote—depressing as it seemed to be,—saved the children from dangerous experiments. The methods of teaching had been forgotten in the plan, and the legislators neglected to provide for the psychical and physical disposition and require-

ments of childhood.—It is a fact that no child can digest the whole modern curriculum. In earlier days when one teacher with a moderate education led all the classes from the first steps through all the branches of the curriculum, the requirements in specialization were less exacting. Now the work has been divided among special teachers because a man who teaches a limited number of branches only, should become experienced in methods that make tasks easier by directing the exertion on the side of the pupil. This is however not always the case. Every special teacher wants to make a show of his own department and he cannot help doing this at the expense of other departments and especially of the pupils. Abuses of this kind were not provided for by the law mentioned and it seemed more advisable to return to the old method of having only one teacher who would exactly know how the child works, would have to do the same work himself and tire himself out with the same work as the child. The rivalry of specialists is one of the greatest dangers of our public school; for the competition at the end of the term is too often carried on by goading on the already over-taxed pupil.

The experience makes me appreciate very highly the effort of our congress and I consider myself very fortunate to be among a community that grasps vigorously a subject, which, I thought, would continue to be left to mere chance and haphazard for more than one generation to come.

My object is to outline a number of types that require special attention of the teacher for a rational primary education up to, but not including the years of puberty. I cannot enter on the abnormalities of character or the distinct forms of defectiveness, as idiots and children that are excluded from public schools, nor do I think it wise to enter upon more elaborate studies of complicated forms of psychical abnormalities that would only interest the alienist and criminologist. I restrict myself to those children that might require special attention in the ordinary school course. It is a part of school hygiene that has scarcely been developed, but deserves as much attention as the nourishment of the child, the construction of the school rooms, of the seats, etc.

Every teacher of experience has seen that quite a number of those pupils who seemed to be the best at one time proved to be

a failure in later life, and that many who were, at least in their first years, among the *unnoticed* or even the dull pupils proved finally to become more or less advanced or prominent. Should it not be desirable to find out reasons for this and to classify them?

Further: In our age where insanity seems to spread over a much greater proportion of families than formerly, we lack altogether statistics about the predisposing features that show through the years of education at school, and we rarely see attempts to find out any such disposition, to examine it and to correct it. Yet, would there be any task more urgent than the prevention of this most ruinous scourge of society? This latter point is, of course, difficult. First for practical reasons. The degenerative processes in children have their chief encouragement in the equally defective home surroundings and to make a statistical attempt worth anything, these conditions at home would have to be watched. This is, of course, impracticable; it would rouse much animosity, if it were known that records are taken at school which throw a bad light on methods used in families. This can, perhaps, be done some day when home education too is a less haphazard business than in our days. The other reason is that the teacher cannot be expected to be over-burdened with too much statistical work; his interests must remain with the school, within the domain of education of the pupils, and we cannot ask him to do what the overwhelming number of alienists do *not* do with their patients, i. e., give them a thorough psychological examination.

In classification we must strictly differentiate between primary abnormality of the mental constitution due to primary disorders of the mind and the material substratum of the psychical functions, and secondly, abnormality due to disorders of the organs of perception or of expression. The latter is not necessarily belonging to the class of mental degenerates; two or three children of a family might be thus hampered in their mental development and still we should not have a reason to call the family a family of mental degenerates, because removal of the accidental cause alone will restitute it to its old position. On the other hand slight mental defects—perversity of feelings, precocious sexual feelings, etc.—without external cause, will make us class the child, and

perhaps the family, among the neurotic and psychopathic.

What will help us to make an early diagnosis of secondary, symptomatic, mental weakness?

One considerable and typical group has lately been described by Dr. Victor Lange in Kopenhagen. Most of you have probably seen children with a rather dull, often stupid and vacant expression, with staring eyes and open mouth, children who have difficulty to breathe through the nose, who have a thick, frequently indistinct, stammering pronunciation, and defective power of hearing. The child seems brighter at times; at other times it scarcely hears at all. Pronounced degrees of this symptom-complex attract, of course, the attention of the family and the child is put under the care of a physician; but slight degrees are frequently over-looked; the boy is punished for manifestations of a bad spell because, at times, he shows that he *can* work and hear. It is certain that most of these children are suffering from adenoid vegetations in the pharynx and posterior nasal cavity, and many of them show enlarged tonsils. At times the swelling is little marked; the child breathes more freely, the head on the whole feels more free; the ears are, as it were, open again; the child will be relatively bright. But at other times the ears have a kind of damper, that may be removed for a little while by sneezing; the nose does not let the air pass, and besides the defect of hearing you find that mental dullness which catarrh of the nose produces. All this is due to the facility with which these granulations swell, cover the Eustachian tubes and occlude the nasal air passages. If these spells go over into a chronic condition, the child deteriorates not only because the defect of hearing prevents it from learning, but because the dull feeling due to the occlusion of the nose has a depressing effect on the spontaneous mental activity. Last but not least, the moral effect on the child is very strong; the child becomes accustomed to be blamed unjustly and developes an unpleasant disposition because it is a disadvantage compared with the companions. It is not rare to see these vegetations disappear in adult life; but then it is generally too late. Not to remove them in time means spoiling the child's education and future.

The same holds probably for other defects of hearing and for defects of sight, with the only difference that the latter are of a

less intermittent character. Correction of the anomalies will be followed by nearly complete recovery of the mental loss.

How do the primary mental abnormalities show? We may differentiate between the various degrees of obvious defectiveness —imbecility—and the more concealed forms, that seem to be little more than predispositions, but, under close observation become perfectly distinct abnormalities.

The child that comes to school has already a great number of experiences registered in the cerebral cortex: Impressions from home, from early companions, from a more or less free life with a limited number of pleasures, dangers, desires and fears. Generally the fate of a child whether it will show abnormal or normal tendencies is decided before it is taken to school for the first time.

We have to consider two classes of children that show intellectual defects during the years of primary education:

1. Children who are by inheritance and early education in an abnormal nervous condition, and get worse or better under the influence of school.

2. Children who do not show any abnormality primarily but who suffer under the life and over-work at school.

In the former group we would differentiate between the mentally weak child and the apparently normal or more than normally developed child. As we have seen we have no right to classify a child among the mentally weak before a careful examination by a physician who is familiar with school diseases and diseases of development, has shown that the mental weakness is primary, not secondary. It is natural that this group before all makes the institution of a regular medical school inspector most advisable. No child shall lose a chance for being treated for what might be the primary cause of the arrest of development; and, with a cause beyond reach, no teacher should be allowed to entertain useless hopes and useless efforts at the expense of those who deserve attention.

I do not know how far the plan of a few German States merits imitation, where special classes are provided for the weak. We must not forget that the moral feeling of both parents and child are apt to be hurt, unless such a separation can be made with much tact. Children, always ready to make comparisons, will be

apt to look down upon a weak companion, and the weak child may grow up with the feeling of humiliation and develope many unpleasant or even serious antipathies. I do not know how this unpleasant side of the practice in Baden is made to lose its sharp edge. If it can be done, it will certainly be of advantage to keep a weak child away from the failure in competition with highly talented and abnormally gifted children, as soon as competition loses its beneficial influence, becoming a grave danger on account of over-work or of hopelessly unfavorable comparisons.

Now the abnormally bright child. I do not speak merely of the young genius. Those marvels are too rare to deserve special attention here—but of all those "parentally-dubbed geniuses," who are expected to be the most promising part of the rising generation. The symptom-complex of which I am going to speak shows largely between the years preceeding the entrance to school; but in school you have to observe the outcome of it and also more persistent types.

I mention first the nervous temperament. Unlike pronounced nervous abnormalities, the nervous temperament shows itself at *times* only, following more or less obvious incidents and plausable and rational causes, which are known to everybody as exciting factors. Among others, we find pain the cause of excitement; sometimes a deep impression, or fright, or digestive disorders may cause night-mares, vomiting, convulsions, outbreaks of anger and screaming. At school you would recognize these children by their temporary restlessness and distraction, inattention and lack of power of concentration—all this without a perfectly adequate reason, but usually passing by when the child has rested. In others this condition, exceedingly frequent in children from three to five, becomes more constant. The child is bright, at least reacting quickly, but unsteady in its application to the work. It knows how to cover defects of its work by little deceptions and to keep a place higher than it really deserves; it responds to repeated stimuli much less by fatigue than by excitement and restlessness, capricious, impulsive manners, fits of crying or hilarity. A number of little things which at first seem to be nothing but the normal unrestrained reaction of the child, accumulate and grow more constant, until you finally have the hysterical boy or girl.

These children are very difficult to manage. Generally the home surroundings are the cause of the condition, foolish parents or relatives who cannot distinguish between superficial brilliancy and natural brightness. A teacher who can lead such children to a more quiet and steady disposition deserves high praise for tact and ability.

The next step is the development of a pronounced hysterical attitude, mostly observed in girls between eight and twelve. They are extremely impressionable and make a show of everything, cry and laugh over the least trifles and show a remarkable imagination and intelligence. They distinguish themselves in everything that can be done with imitation, drawing, music, recitations,even in mathematics,as long as nothing original is asked from them. Disappointments produce strong reaction, pressure and pain over fore-head, pain in the eyes, with or without obvious exaggeration of the complaints and finally all that lamentable series of hysterical symptoms that belong more to the age of adolescence.

In boys, the following course of development of neurotic conditions is more frequently observed. The parents discover special faculties in the boy and encourage him to stay away from the companions of the same age to cultivate those accomplishments and to associate with those that can help him, i. e., with people older than himself. Thus we find an ardent ambition to excel, hidden under a show of industry and strong will power. The curriculum at school is not wide enough; private lessons often seem to be necessary for the especially bright boy. The wonderful elasticity of the child stands this for a while; then, symptoms of fatigue show, first without disturbing the sleep, later on with headaches, restless sleep, or sleeplessness—and finally the boy drifts into a marked condition of neurasthenia, as soon as the period of puberty comes.

Both groups, the neurasthenic and the hysterical, show one marked feature; the great contrast between knowledge and the ability of application; further the inability of reacting in time by the inattention which preserves a normal child from being overburdened. The perfectly normal child will relax in time, before the brain suffers; inattention will be the healthy remedy. To overcome the inattention of fatigue means to set up a condition

of irritability and excitement which will do harm in the long run. This is why so many of the very best teachers injure their pupils, by not doing justice to inattention as a normal sign of fatigue.

What can the school do for children that show the nervous symptoms described above?

It is easy to say that it has to implant steadiness of purpose, steadiness of character, which might prevent the excesses mentioned. Unfortunately the home of the children is the vulnerable point in most instances, and the good which the children get from the beneficial school-discipline, is too quickly undone by the ignorant parents. It will probably be best to let the parents know that it would be desirable to have a medical examination of the child, to give them through the physician the necessary advice and to enforce the order and rules of the school with such caution as seems necessary.

Another most important point is this: School and home should impress the child with the *moral* law that physical and mental well-fare is a gift deserving the greatest respect; and that disregard of one's health is always a mean immoral neglect which does not merit any sympathy. As far as I am aware there is more work done in the schools here than abroad where, at least in the higher grades, most of the time is nothing but recitation of the work done at home, and dictation of the new tasks to be studied at home. Whereas it may be good to keep certain individuals busy a little longer than the ordinary school time, the home work seems to me to be a considerable danger; the pupil becomes accustomed to *irregularity of work* which should never be cultivated. Try to find out how much work a child can do every day; let the child do such work at school and let it feel that it leaves the school as a business man would his office with the business done and the satisfaction of well deserved rest. Moreover the work at home creates that *martyr-spirit* with which the abnormally conscientious pupils pride themselves on having so much work to do, and on having to avoid company and society; these children are craving for admiring sympathy, and do this later on in life to the disadvantage of those who live up to more rational and sanitary rules. I know quite well that home work cannot be altogether left out from the school plan. But the teacher should keep control over

it; he should exert his influence on the families and see that the work should always be done in order within a certain time, and without encroaching in the least on the time of recreation. The work at home can be greatly reduced by omitting the so-called exercises of memory. It is a great illusion, the idea that learning by heart improves memory. Experiments show that things learnt by heart mechanically disappear rapidly from memory. Simple learning by heart should therefore be condemned mercilessly. If you wish children to remember poetry and similar things you may repeat it before them, or rather make them enjoy the poetry frequently. Those who have facilities to learn it will learn it thus without mechanical pressure; others would carry it anyhow as an undigested stone in their memory, and forget it as soon as they would have a chance.

Whereas the types of children with whom we have been dealing so far, were largely such as to bring their defects to school when they enter it, I should now like to draw your attention to another class exposed to mental abnormality worth much study; to children who return to school after sickness. It is a popular experience that children who have suffered from diphtheria, scarlet fever, small pox, etc.,sometimes undergo a deep intellectual change. It would be of very great interest to have notes on the time that children require for complete recovery from the consequences of these diseases. As a rule they are sent to school too soon, at a time when they are rapidly tired out. They have to fill up gaps of memory, have extra work to make up for what they missed, and do, moreover, nearly all the work that the class is doing. I know of a number of young people that have to attribute serious mental disorders to this experiment. The questions will be: When shall a child be allowed after sickness to take up the class-work again? What measure should be taken to prevent overwork after sickness without putting the child to the inconvenience of losing a whole year? It seems to me that a prolonged rest, and gradual private instructions in the essential points should precede the entrance in school and should be insisted upon emphatically.

In connection with this I might mention the attitude towards children that suffer from chorea. I should not wonder if sometimes the symptoms of chorea would show first in the mental faculties; in the course of the disease the mind and intellect are

certainly much affected. Here we must insist upon discontinuation of attendance at school, and a long period of re-convalescence. Moreover chorea is a disease which seems to become epidemic. Another important disease is epilepsy. It will be interesting to know how many children are affected by it and whether a State school for epileptics would be a desirable institution.

Let me sum up my conclusions:

1. It would be desirable that the teachers engaged in the study undertaken by the congress should be assisted by competent physicians. An attempt of a few years would show how much could be done among those children that suffer merely of symptomatic mental weakness due to disease of extra-cranial organs, and also by advice for the *purely* nervous child.

2. In the investigation of the teachers special attention should be paid to the forms of fatigue shown in various children, to the inattention and to the direction of the stage of excitement and irritability and to the most frequent causes of fatigue at various times of the day.

3. Combination of various kinds of work and recreation should be tried with a view to the least possible exhaustion.

4. Provision should be made for the weak and for those who have been kept from school through sickness.

5. The schools should be invited to furnish satisfactory statistics for the nervous affections, especially of head-ache, chorea, epilepsy, etc., and to have them controlled by a physician.

GROWTH IN RELATION TO TRAINING.

BY PROFESSOR H. H. DONALDSON,
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The time has now arrived for more attention to the biological aspect of the problems of education. Most fundamental and important among these is the relation in which the formal exercises of education stand to the natural changes due to growth. Experience has shown us that the brain is the organ of the mind and that variations in the physiological conditions and anatomical structure of the central nervous system are accompanied by variations in the form of psychological expression.

Since it is the nervous system and especially the brain which in the highest degree has the capacity for memory, a moment's consideration will make it plain that our principal educational efforts are directed towards the brain. Its growth therefore is a matter of much interest. In the child at birth, the brain weighs about 13.5 ounces avoirdupois, while at maturity the average weight in the male is about 47 ounces or very nearly three times that found at birth.

We know that growth in any part of the body or in any system is dependent upon two processes, either the structural elements, the cells there present, increase in number their size remaining the same, or they increase in size the number remaining the same, or they do both of these things in varying proportions. When we inquire how it is that the brain increases in weight, there are available the following facts for answer:—Some months before birth all the nerve cells which are destined to form the central nervous system have already been produced. For the most part these cells are immature and undeveloped but their number is complete.

The changes in the size of the brain which follow birth therefore, are due to the increase in the size of the individual elements composing it.

It may be added in passing that this is typical of what takes place in other systems of the body during growth. The first change involves namely, an increase in the number of the structural elements, while the second is due to their enlargement and modification. But the change under discussion is capable of somewhat greater subdivision. The constituent cells become not only larger but by sending out branches form more numerous connections with one another and by changes in their composition become chemically capable of more complicated and refined reaction. The principal cause of this later growth of the brain is the formation of those branches by which connections are established, together with certain substances which form a sheath to the majority of the outgrowths.

The groups of cells may be, for physiological purposes, divided into three principal sub-groups; first, the sensory group, the function of which is to convey nerve impulses aroused at the surface of the body to the massive central system. Here in the brain and spinal cord, are enormous numbers of cells, several thousands of millions, whose function it is to distribute the incoming impulses through the system. By the aid of these central cells the impulses arrive at the third group, the motor or efferent elements, and are carried by them to the organ of expression, of which the principal are the muscles. A careful comparison of the nervous system of man with that of other animals, indicates that the chief superiority in his case is due to the development of the central cells, and although much may depend on the refinement of the elements by which the impulses come in, as well as that of those by which they leave, nevertheless the central group is in all cases physiologically the most important.

It happens, too, that education mainly modifies the reactions of these central cells and they have therefore the greatest pedagogical interest. Very roughly, the order in which they develop is like this: In the first months of life the central cells receive the impulses from without, and more

or less imperfectly pass them along. But the individual does not consciously remember the process; later comes a growing power to remember, and finally the psychological outfit of the child is increased by the addition of a large number of mental pictures, which may be in the terms of any sense, and he learns the art of comparing any present impression with his pictures of past impressions, and in the light of these latter modifying his reactions to the present stimulus.

The manner in which the growth changes affect these reactions is comparatively simple. In the early days of life the thoroughly developed and fully active cells are comparatively few in number and are distributed in groups physiologically isolated from one another. The architecture of the central system is a framework, a skeleton, as it were, of what will later there be found. Like the framework of a house in the process of construction, it fixes unalterably the main lines, the additions which are made being those of detail. Thus from these principal groups of cells representing the reaction most important for the welfare of the individual, the growth process gradually extends in widening circles. The undeveloped or sleeping cells are by degrees roused to those changes which result in chemical alterations and in the production of new outgrowths by which they become connected with one another, and able to take part in the general activity of the central system. There is a peculiarity here which marks off the nervous system from the other systems of the body. While a gland, for example, which increases its bulk, or a muscle which becomes more massive, has simply increased respectively, the power to produce more of the same secretion or move more vigorously the same joint, the brain during the growth process undergoes a further organization, so that it becomes capable of more complicated reactions than were previously possible for it. This difference is extremely important, and would serve alone to sharply separate the system of nerve elements from the other anatomical systems of the body. Just as the central cells are the most important of the three sub-groups, so it appears that in the central cells this organizing process is the most important feature. The direct bearing of these relations on training may be briefly indicated,

by reviewing the control which we possess over the movements of the arm. In infancy the control of the arm is very imperfect, and it is moved as a whole, the principal motions taking place at the shoulder joint.

We should infer from this that the cells which control these muscles are earliest developed,and such is apparently the case. Now in a very general way, the processes of development and organization in the cells which control the movements of the other joints of the arm even to the joints of the fingers follow in regular order down the limb and the cell groups in the brain stand at regularly increasing distances. We should expect therefore what we find, that the power of control gradually passes down the limb, so that complete control of the fingers is the last to be naturally attained. To utilize these facts, for educational purposes, we must remember that the bodily organism has acquired through long ages habits of growth, that these habits follow in much the same order in different individuals, although there are exceptions; that the easiest time at which to assist natural processes in the central system by means of exercise is during this growing period; that for any group of cells the growing period is a comparatively limited one; for it would appear that the same exercises coming too late or too early, and thus missing the natural processes in the cells produce far less complete and desirable results.

Growth, therefore, is the guide in these matters, and in any particular case there is good reason to think that just as in the control of the limb, the growth changes are from the cells giving the most general control, to those giving the most special, so all the processes of this sort represent changes from the general to the particular. But there is another aspect of this same matter. Since the cells in the brain are organized in the manner just suggested, it would follow that the easiest access for impulses to the centres for special movements would be by way of those centres earliest developed. As a consequence, if any of these more general centres fail to receive the proper training, they become but imperfect pathways for the impulses destined in later life to control the extremities of the limb, and thus arises an irremediable awkwardness. The exercise to be associated with growth, is, however, of a general

character, and by no means to be carried anywhere near the point of extreme fatigue or exhaustion. It is certainly not till after adolescence that the majority of cells in the central system have attained their full size, and until this has occurred we may consider that the organization is still incomplete. These elements must always be accumulating reserve materials for the formation of new outgrowths, which shall lead to new connections and for the elaboration of those connections which have already been formed. Further than this, as during the early years the brain is incompletely organized and the powers of the individual are not revealed until the organization is largely completed, all early education partakes of the natnre of a reconnoissance which shall stir up this and that group of sleeping cells when they are naturally ready to respond most perfectly to such stimulation, and thus to discover, by the resulting development and organization, what has been the natural endowment of the child. For these reasons any form of early specialization, which leaves unexercised and untested considerable portions of the central system, accomplishes the end it gains at the risk of overlooking the best capacities of the individual and of disturbing the nutrition of the nervous system as a whole, by an immoderate exercise of limited portions.

SUGGESTIONS ON THE STUDY OF CHILDREN.*

BY WM. L. BRYAN,
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Common sense agrees with all the pedagogies that you should know as much as possible about the children you have in charge. The following suggestions are intended to help you do this. Do not expect too much from these suggestions. There is no magic in them to make you know anything of value. Do not suppose that these or any plans for child-study can take the place of a common sense use of what you already know of humau nature. Do not suppose that any kind of systematic child-study will make unnecessary an intimate personal acquaintance with the children you have in charge. On the contrary, the main value of such plans of study as are here proposed is to help you towards such an acquaintance. Do not suppose that you must choose between the direct observation of children and a study of text-books on psychology. Rather will such observations and such reading valuably supplement each other, in proportion as both are well done. Above all, do not suppose that any good whatever can come to you from perfunctory study. Here as everywhere the conditions of getting good are the deeper

*Mr. Orville T. Bright, Superintendent Schools, Cook County, Illinois, generously provided for the printing of the circular which was prepared at his suggestion and distributed at the Aurora meeting. The undersigned is responsible for its contents.

The suggestions of the circular do not make a representative outline of modern child-study. On the contrary they only constitute a limited selection from that field. Two principles have ruled in the selection: (1) Can the plan be successfully carried out by an intelligent teacher? (2) Will the results be of immediate practical value to health, government or instruction in the school?

It is believed that many of the plans proposed meet these conditions. As scientific child-study advances, more and better plans of this kind can be sent out. W. L. B.

interest which does not require to be entertained all the time by tin-rattle discoveries; patience to burrow for long times with little light; faith to wait undismayed in a seeming chaos of facts for a view of the order in them. Here, as everywhere, to get valuable insight means to become initiated through a long and devoted novitiate. Neither philosophy, nor art, nor ethics, nor any sort of science can get through you to the children in sealed packages. Truth must be re-born in you before it is school-room wisdom. There is doubtless great advantage in joining with others in this work. By all means form clubs. Remember, however, that organization can easily become an excuse for real work. Remember, too, that a Gideon's army of people who are in earnest is only encumbered by a swarm of people who are not.

The purpose of these studies is not to secure scientific results. Trustworthy scientific results are as hard to get as they are precious. The purpose here is to help teachers, mothers and children in the high interests they have in common. Nothing is here proposed which any one of good judgment may not hopefully undertake. No inaccessible apparatus is required. Nevertheless, all observations and records should be made with the highest possible fidelity. This is a condition of any good to yourself. Then you should come, if possible, into communication with a psychologist. Possibly your results may afford data of scientific value. After all a fact is a fact whether or not it is discovered by a doctor. Finally, don't undertake too much. Begin only what you can thoroughly carry out.

I. HYGIENIC.

Assuming that you are not a physician or a specialist in any line affecting health, there are still some important things that you can do for the health of your pupils. In general you can, by careful attention, aided by such plans as those following, discover the existence of many forms of sensory, motor and central defect.

Vision: The vision of about 30,000 school children has been tested. It is claimed on the basis of these tests that defect of vision increases from grade to grade and with the increase of school requirements. It is practically impossible for an untrained

observer to determine *what* is the matter with defective eyes, but it is possible for the fact of serious defect to be known. Get Snellen's test cards (they can be had from F. A. Hardy & Co., 46 and 48 Madison St., Chicago, Ill., or doubtless from any firm dealing in optical supplies). The distance at which type of any size should be read is shown on the card. The E's in different positions may be used to detect astigmatism. Test each eye separately, holding a card before the eye which is not being tested. If you make no formal eye tests, note at any rate which, if any of the pupils, exhibit defective vision. Write a sentence on the board large enough to be read from the rear of the room. See which of the children cannot do this. Note also whether any of the children seem to suffer pain from ordinary light.

(I am indebted to Dr. F. C. Heath, of Indianapolis, and to Mr. G. B. Harris, M. O., of Bloomington, Ind., for valuable suggestions on testing of eyes by untrained persons.)

Hearing: The hearing of about 20,000 school children has been tested. One investigator reports 2 per cent of defectives. Eleven others report 13 per cent to 30 per cent of defectives. A watch or the whispered voice have usually been used. If you use the voice, place the pupil at a given distance, let the ear which is not being tested be kept closed by an assistant. Dictate sentences, or perhaps better, numbers, and bid the pupil write. You have only then to take note of those pupils who demand a marked increase of loudness. If you use a watch, let the pupil be blindfolded and one ear closed as above. Note the distance at which the ticking can be heard when the watch is brought *toward* the pupil. The absolute distance will of course vary with the loudness of your watch. The relative distance, will reveal the defectives.

Dermal Sensibility: Abnormal dermal sensibility may be the effect or the cause of central nervous defect. Refined tests are possible only with special apparatus and by trained observers. Marked abnormality may be detected by rough tests as follows: Bid the pupil close his eyes. Touch the back of his hand with a pencil. Bid him touch the same spot with a pencil. Note the error. Note the pupils that

vary widely from the average. Press back of hand with point of bone crochet needle. Note pupils that appear specially sensitive or callous to pain. Question pupils that vary considerably from the average in any of these tests, for evidence of extreme dermal sensitiveness or callousness. Note whether these extremes are associated with differing emotional dispositions. If you can do none of these things, note at least the children who seem specially liable to colds and help save them from that.

Nose-Breathing: Breathing through the nose is known to be important for physical and mental vigor, memory, power of attention, etc. A simple and obvious test will show which children cannot breathe freely through the nose. Try the apparent defectives carefully several times to eliminate cases of temporary stoppage.

Motor Ability: Three classes of tests are proposed. *First, general motor tests to be tried on all pupils.* Let all the pupils in your room write some character, say the figure 9, as rapidly as possible for ten seconds. Try once for practice. Then after a rest, try with care and note results. Take particular note of the fastest third and the slowest third of a given age, particularly of the slowest. Examine the handwriting of all the pupils, taking note of the best and worst, particularly of the latter. Are the slow ones in rate of writing, the awkward ones in writing? Note especially those pupils who are poor by both tests. Special inability indicates at least retarded motor development.

Note, if present: Twitching of eyelids, rhythmical movement of eyeballs, drooping of eyelids, twitching of face, grinding of teeth, stuttering, tremors or twitching of hands, hyperextension of fingers, irregularities of gait, muscular restlessness, marked flightiness of attention.

Motor tests to be made upon children whom the foregoing tests indicate as abnormal: Have child's eyes shielded from the light for a few moments; when the eyes are exposed to the light note whether or not the pupil contracts. The absence of the iris reflex is an early symptom of nervous disease. Move your finger in a circle about the child's field of view and note if eye-movements in any direction are

limited. Bid pupil put out his tongue. Note limited twitching or asymmetrical movements. Bid pupil extend arms above the head. Note sagging or twitching of either hand. (Premonitory symptom of chorea.) Bid pupil close the eyes and touch his nose or stand on one foot. Inability to do these is a symptom of motor inco-ordination. Can the pupil perform common tasks, as balance on his heels, skate, ride a bicycle, throw a ball straight, catch a ball, thread a needle and the like? Have him stand quite still for one or two minutes and note twitching movement. In young children these will appear normally. In general note whether the pupil plays much and skillfully at games requiring motor ability.

Central Defect: Defect in the central nervous system may give rise to such sensory and motor defects as those indicated above, or to mental defects of various sorts. Read the articles by Royce on Mentally Defective Children in Schools, Educational Review, Oct., Nov,, and Dec., 1893. Note in particular any signs of over-fatigue. In addition to sensory and motor defects as given above, note (Galton) flightiness of attention, weakening of memory, slowness and difficulty in reasoning about common sense things, insistent ideas, indecision, etc.

When you have found defect in pupils what can you do? (a) You will at least not blame the defectives for their inability as you may now in ignorance be doing. (b) You will without doubt give special consideration to these children, such as common sense and common humanity may dictate. For example: In seating you will have consideration for those who are defective in vision, in hearing, in liability to suffer from cold or in liability to take cold. In the requirement of all school tasks you will make allowance for the defectives. *You will specially beware of requiring long-continued stillness, long-continued stress of attention, or long-continued or precise use of the hand, eye or vocal organs from young or nervous children or* (as Dr. Meyer suggests) *from children just recovering from sickness.* You will remember that while fatigue is the normal accompaniment of mental or physical work, that mental work exhausts one more rapidly than does physical work, that children become exhausted more readily than do adults, that the bad air of the school room

accelerates fatigue, that continuous over-fatigue leads to chronic fatigue, and so to a long list of physical and mental ills, and you will consider whether anything which you have power to change is helping any child into chronic fatigue. Notice specially the nervous children, those entering the period of adolescence and those competing for grades or prizes. Query: If grades and prizes stimulate only a few, and if these few are overworked and overexcited by the device——? Do you have pupils who should probably retire from school for awhile? (c) You will call the attention of parents to the fact of defect, and so in many cases secure for the child competent medical treatment. (d) Lastly, such observations by teachers may be instrumental in inducing school boards to institute expert physical examination of school children, and to provide compensatory instruction for defectives.

II. THE STUDY OF CHILDREN'S MINDS.

Most of the methods proposed for the systematic study of children's minds require that a very large number of children should be tested precisely in some way, and that the results should be tested by statistical methods. Such studies are extremely important, but as a rule teachers have neither time nor training to undertake them profitably. At any rate such studies will *not* be proposed here, but only a very few lines of inquiry which may lead teachers to a better acquaintance with their own pupils. Unless teachers seek such acquaintance what are all the maxims from the psychology of apperception but useless pedantries.

(a) What do the children in my school know? What is their present stock of ideas? Read Hall's Contents of Children's Minds on Entering School.

The children make mistakes. Why? Because the task is not rightly presented to their senses? Because of sensory or motor defect? Or because of erroneous apperception? In any case the source of the error should, if possible, be known in order that it may be removed; especially so, if a certain kind of errors, as is often the case, is recurrent. For recurrent errors mean the establishment of vicious mental habits. Suppose then you take note of pupils specially addicted to blundering and keep a journal of their mistakes in oral or written

work. A keen study of this record in connection with your knowledge of the child will very likely enable you to discern the source of difficulty. You may find occasion to make a discreet and kindly use of the record to open the pupil's mind to a sense of his need of improvement. At the least, earnest following of this plan will cause you to grow in psychological insight. Finally, if you wish, send your record with an account of the outcome to some psychologist.

(b) What are the children of my grade most interested in? What are they not at all interested in? What do they assimilate, what reject of my teaching? What do they remember and what forget? I bring them material in the several classes —reading, geography, etc. I require such and such tasks to be performed. What of this gets into the child and stays there? No questions can be more important. Can I get towards an answer to them? Can I do this with what time I have at my disposal? (See literature below for plans hitherto used.)

I have this plan to propose. Sound the children thoroughly as to what they remember of last year's work. That is good Hegelian and Herbartian Pedagogy and I hope also good common sense. First find out as thoroughly as possible just what work was given to your pupils last year in reading, geography, etc. Then have a series of language lessons followed later by conversation on that work. The list of questions must be made with precise reference to the work which the children had, so I can only give examples:

"How many 'pieces' can you remember from the Third Reader, which you had last winter? Write the names of all you can remember.

"What 'pieces' did you like best? Why?

"You had a story about a boy stopping the water in the dyke. Write all you can remember of the story.

"You had a selection on Heroism. Write all you can remember about it."

I am sure that such questions could lead to the best sort of language work, as well as to a review of the things formerly learned, so that "no time would be lost." But if you read over the papers and then talk them over with the pupils *with the purpose of finding out what sort of thing they are inter-*

ested in, seize upon, assimilate, and remember, how can this fail to be of the greatest immediate value to you in the direction of this year's work.

I wish that some teachers would try the following modification of this plan. Get hold of the examination questions given to your pupils last year. Without warning, examine them again on the same questions. If possible compare the results with last year's papers. Besides the immediate value of such studies, as this last, they might prove of wider value. These things that no child remembers for a year—what about teaching them for this year? If they must be known, how must we change our method to make them stay known? If they only give discipline, is it possible that something which the child seizes upon with more hunger will give even more discipline? But one must be cautious in making conclusions, still more cautious in making changes.

(c) Who are the leaders in my school? Who have most to do in determining the sentiment of the school as to school work, morals, industry, obedience, truthfulness, kindness, etc.? What is the tone of the school as to these things? I must know. What gives these leaders their influence? Is it physical force, speed, skill, intellectual superiority, friendliness, imperiousness—what? And the followers—let me note the way in which they imitate—in dress, games, carriage, speech, in attitude.

To get inside this matter is more important than anything else for the success of the school, its immediate superficial success, and its deep and lasting success. In studying thus the interplay of leader and follower, you are moreover studying embryonic human society. You cannot go far without getting insight into the laws and forces that hold in history and politics.

(d) Dr. Bergstrom suggests the following: What appeal do you rely upon most to influence your pupils—fear, love for yourself, utility, politeness, duty, or what? What sort of appeal is the best for the pupil? For the purpose of finding out what influences will be most effective with each pupil, he suggests that teachers seek to become acquainted with the home life of the children, and especially with the tone and ideals which prevail there.

In all the foregoing work, remember that children are very suggestible. You may easily and unconsciously induce sayings and doings such as you are looking for. Again you may read your own theories of expectation into what they do. Try always to get at the spontaneous activities of the children and write them down "without putting in any of your own."

"But there is no time to do such things as are suggested in this circular. Teachers are overworked already. Teachers cannot do everything." Even so. Teachers cannot do everything. They are overworked already. The programme must be carried out. The examinations must be held. The grades must be made out. The "ground must be covered." There is no time for culture teaching. There is no time to get acquainted with the children.

I subjoin a few bibliographical suggestions:

Professors James, Ladd, and Baldwin have written excellent works on Psychology, in large and in abridged form. McKendrick's Physiology of the Senses, Ziehen's Introduction to Physiological Psychology, and Sanford's Manual of Experimental Psychology are trustworthy and valuable in the fields they cover. All can be obtained through any bookseller.

Preyer: The Mind of the Child. Appleton, 2 vols. Best work on infant psychology.

Preyer: Mental Development of the Child. More condensed, popular and recent than the foregoing. An appendix to this book giving directions to mothers on infant study has been translated by Professor W. O. Krohn of the University of Illinois, and is published in this number of the "*Transactions.*"

Tracy: The Psychology of Childhood. D. C. Heath, '93. Resumé' of practically all researches in Infant Psychology with additions by the author.

Cohn: The Hygiene of the Eye, London, '85, gives literature to its date.

Chrisman: On hearing. Ped. Seminary, II. 3. Gives literature to '93.

Young: School Hygiene. 7th Annual Report Maine State Board of Health.

Hartwell: School Document, No. 8, 1894. Report of the director of physical training, Boston, Mass.

Bryan: On the Development of Voluntary Motor Ability. Am. Jour. of Psychol. V. 2.

Burnham: Outlines of School Hygiene. Ped. Seminary, II. I.

Royce: Defect and Disorder from Teacher's Point of View. Educational Review. Vol. 6, pp. 209, 322, 449.

Hall: Contents of Children's Minds, etc. E. S. Kellogg & Co., '93. Articles in Ped. Seminary, Worcester, Mass. G. S. Hall, Editor.

Hall: Notes on Study of Infants, I. 2.

Burnham: Study of Adolescence, I. 2.

Hall: Children's Lies, I. 2.

Boas: Anthropological Investigations in Schools, I. 2.

Dresslar: Fitigue, II. 1.

Burnham: Scheme for Classification of Child Study, II. 2

Barnes: Feelings and Ideas of Sex in Children, II. 2.

Burnham: Individual Differences in the Imaginations of Children, II. 2.

Russell: Study of Children at Worcester State Normal, II. 3.

Brown: On Thoughts and Reasonings of Children, II. 3.

Barnes: Theological Life of California Children, II. 3.

Wycoff: Constitutional Bad Spellers, II. 3.

Williams: New Psychology in Normal Schools, II. 3.

Barnes: Children's Drawings, II. 3.

Hancock: Preliminary Study of Motor Ability, III. 1.

Haskell: Imitation in Children, III. 1.

Schallenberger: Children's Rights as viewed by Themselves, III. 1.

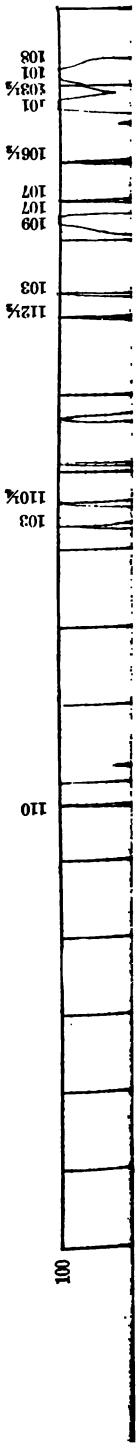

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CHART I.

DIRECTIONS FOR CONDUCTING A DAYBOOK RECORDING THE DEVELOPMENT OF THE INFANT FROM BIRTH.

TRANSLATED FOR THE ILLINOIS CHILD-STUDY SOCIETY BY DR. W. O. KROHN OF THE UNIVERSITY OF ILLINOIS.

GENERAL RULES.

There must be set apart for each child a special daybook in which nothing else shall appear than those observations made upon him as an individual.

For each day there is set aside a whole leaf with the date printed at the top. The obverse side of this leaf should remain blank, so that later the necessary discrepancies arising from unconnected notes and prolix statements may be brought into a new account by means of excerpts and condensations. Thus we shall have united what belongs together and possess an orderly series of development which will furnish useful material for the study of the gradual unfolding of the natural capacities of the child.

Nothing except what the observer himself has perceived with the full conviction that he has not erred, should be recorded. Especially should all conclusions, opinions and remarks concerning what the child may have desired, felt or thought, be entirely separated from the actual facts, and at best be preserved in a separate volume. All accounts of nurses, governesses and servants of the "cuteness" and other supposed remarkable qualities of babes and children yet unlettered, should not be considered at all until they somehow find verification in actual reality.

The daybook must contain absolute facts only. Then it is a journal of observations which may possess real scientific value.

But to this end it is also necessary that we have a description of every significant indisposition as well as the sleep, appetite,

thirst, fatigue, and the like, in connection with the day on which the observation took place.

In case the parents conduct the daybook together, the father as well as the mother should label his own observations so that later on no doubt can possibly arise as to who made any particular observation.

Interruptions of several days or weeks, as can readily be seen, do not jeopardize the success of the undertaking so much as entries under false dates or the confusion of different children places and times.

INTRODUCTION.

Those who are determined to observe in the best manner possible the first years of their children without having themselves pursued physiological and psychological studies,would do well to consult the chronological table which has been placed in the form of an appendix at the conclusion of the third edition of "The Mind of the Child." (D. Appleton & Co. 1888). One finds there, for each of the first thirty-six months of the child's life, at least some of the observations which are quite feasible and which formulate in psycho-genetic retrospect, the more important points (pp. 221-271), with tables arranged according to the age in days, weeks, months, etc. There is also a useful alphabetical table of those phenomena which the child manifests during the progressive development in the first years. One can thus infer what of importance follows next in this psycho-genetic study. Indeed this register which we are about to attempt, is made intelligible only by industriously consulting such a work as "The Mind of the Child."

LEARNING TO SEE.

Light-Sensibility.—Will the child which is sleeping in a dark room awake at the noiseless approach of an ordinary candle-flame, or does it closely pinch the eyelids together without awakening?

Do the pupils (which by a bright daylight are very small) of the infant's eyes, expand as soon as the eyes are shaded? Does the sudden darkening of the room cause any signs of displeasure? Or will such signs of displeasure be produced by the extinguishing of a moderate light? If one eye is covered with the hand, does

the pupil of the other eye expand without being shaded? Is the head turned away when a bright lamp-flame is suddenly brought into a dimly lighted room? Does the child cry under these circumstances? Does it close its eyes?

At what distance does a candle-flame produce signs of pleasure? At what distance will a brilliant object produce signs of pleasure?

At first the eyes are closed more than open—when does this cease to be so? Are they more frequently open in a dim light? Sometimes only one eye is closed and the other remains half or entirely open—when is the simultaneous opening and closing of the eyes the rule?

In sleep is the eyelid raised at the approach of light without awaking the child? Or, rather, are there movements of the eyes under the closed lids?

One notices how the expression of the face changes, when, by clear daylight a smoked glass, a blue, yellow, red or green pane of glass is held before the eyes of a new-born child?

When does a trembling light, the flickering of a gas flame or any other intermittent light produce restlessness, crying, pinching together of the eyelids, or other indications of displeasure?

Color-Discernment.—One permits the child to play from time to time with the 72 colored ovals, which are indicated in the Table for the Education of the Color-sense, published by Hugo Magnus (Breslau, 1879) and notices for which color the babe shows a decided preference, by an expression of pleasure. For example, on holding before it first one and then two surfaces of equal size and brilliancy, but of different color, which are very slowly separated from each other, it is found that the eye follows much more readily the red and yellow than the blue and green.

Later let the infant place together the ovals that appear to him similarly colored; still later, when it begins to understand the meaning of words, let it select and reach for the colors it chooses. Furthermore from the first month on, observations should be made of the expression of the child's countenance on holding before it differently colored panes of glass.

In the second three months of the child's life, hold before its face, and within grasping reach, several of the colored ovals (of which frequently two and always one, should be of the warm colors—such as orange, red, yellow, brown), beside the colder

complementary colors, e. g., green-blue, green, blue, and observe whether the first class of colors is preferred by reaching for them). Note also any indications of right-and left-handedness in grasping for the chosen color.

As soon as the child comprehends the word "give" let it select single colors from the mass of seventy-two colored ovals, already referred to, at the utterance of such requests as, "Give red," "Give green," "Give blue," "Give yellow," "Give gray," "Give black," "Give white," noting down the right or wrong cases, at least once a week until all are correct.

One should observe whether the infant neglects among his playthings the parti-colored building blocks, the stone mosaics of green and blue pieces, those of mixed colors, as violet, green-blue, and olive green, as compared with the red and yellow.

Later one should note down the independent utterances of the child concerning colors, e. g., of those transformations which occur in morning and evening twilight. A German boy of sixteen months, after a glance at the yellow cover of a French novel, said, "Ach, gelber Hans." He had industriously studied the picture book "Der bunte Hans."

My own experiments have not been very extensive so far as the number of subjects is concerned, but they have been very thorough on the one little creature that has kindly lent herself for the purposes of science—my own little daughter. When she was but ten days old I began to experiment upon her with reference to her choice of colors. The experiment was very simple. Four diminutive incandescent lights of about one-half candle power each were used. The globes of these lamps were gaily colored, being bright red, electric blue, bright green and a brilliant yellow respectively. All four of these little lamps were placed directly in front of her and then each one of them was removed in turn. The order in which they were removed from her field of vision was varied in each of these experiments. This was done three times a day, for over two weeks with no preference manifested for any one of these four colors. All pleased her child eye equally. On the 27th day, however, a distinct choice of color was manifested. The four lights were placed before her as usual. She looked at them all intently. After one minute elapsed the blue one was removed—her eye followed it a short distance and then became fixed on the three remaining ones. The blue lamp was returned to its place and the red one removed; she followed this one also for but a short distance and then allowed her eyes to again become fastened on the accustomed place. The red lamp was returned to its socket, and the yellow one removed. Her eye followed this closely, and when it passed out from her field of vision she made it very evident that she was displeased, as she knitted her brows, stiffened her back, threw back her head as if angry, looked vacantly into space, *and would not return her*

eyes to the place where the other lights remained burning as brightly as ever. She evidently wanted the yellow light and the yellow light only. It was again brought within her field of vision. As quick as her eye caught the brilliant glare a marked change came over her face and she showed unmistakable signs of pleasure. The experiment was repeated twenty-three times in five days, and each time yellow was the decided preference.—W. O. K.

Direction of Look.—When is the glance directed to the candle-flame? The stare into vacancy—looking straight ahead, upward—when first and when no longer observed?

When does the glance first follow the burning candle, slowly moving from left to right and vice versa, as well as from above downward and the reverse? The experiment should begin the second day of the child's life and be repeated every two or three days. If he succeed in this experiment (usually after the twentieth day) will the eyes with head stationary, or the head with eyes unmoved, or the head and eyes both moving, be turned toward the candle-flame?

At the beginning,are a looking downwards when the eyelids are raised, and a looking upwards, in spite of dropping the lids, to be observed? Is there squinting?

At first will both eyes move together in the fixation of the look or are these movements asymmetrical?

Do the eyes remain long unmoved? How long at the greatest?

Seeing Near and Distant Objects.—If on holding small objects (without changing their brightness) close to the eye, a contraction of the pupil appears, then one can correctly assume that already attempts have been made to fixate upon near objects, i. e., there has already been accommodation of the eye for near objects.

Usually the gaze is first fixed upon the mother's face. When?

When are the eyes first fixed upon distant objects? At what distance?

If an opaque object, which the child gazes at, several yards distant on a direct line with the eye, is gradually brought nearer to the child, a contraction of the pupil must appear if the object is recognized, just as there is an expansion of the pupil when the object is slowly removed into the distance if it still remains fixated.

At the beginning there is no blinking of the eyes when the hand is brought suddenly to the face; when does it first appear? When at the sudden approach of the head? Also is it present

when a pane of glass is placed close to the face of the child? When does it appear at the sudden approach of the fingers?

Later one will notice gross deceptions with reference to estimates of distance.

LEARNING TO HEAR.

When is blinking of the eyelids made to appear by means of loud sound-stimuli? When does a starting in sleep manifest itself if a key is tapped against a glass in close proximity to the child? When is the child first awakened by means of sound stimuli?

In the endeavor to test the infant's sensibility to sound during the first few months of its life, a method that commends itself is simply to drop upon the bare table various coins (gold, silver, nickel, copper) from exactly the same height, e. g., 20 centimeters, close to the child. An adult can readily recognize each of the coins by its sound. If the child turns or blinks its eyes at the sound made by the fall of the heavy silver dollar, and the same results do not take place when the small coin, e. g., the penny, is dropped, the experiment must be continued. The child will learn later to distinguish and name all the coins by the sound alone, just as he will triangular, four-cornered, circular, oval and other brass, copper and zinc pieces which are let fall upon the table from the same height.

Does the child respond to an intense sound at a greater distance by means of a movement of the head, a lifting up of the arms, or a sudden start? Or by closing the eyes, or uneasiness? Is the sucking interrupted?

Does singing soothe and lull to sleep during the first week?

Is the movement of the eyelids very quick or slower than with adults if a clap is suddenly heard?

When the head is turned in response to a loud clap (later also in response to light sounds) is the turning in the direction of the sound or not?

Are the eyes opened widely at new, agreeable sound-stimuli—namely, unfamiliar human voices? At the sounds of animals?

How long will the attention be held on hearing the singing voice?

When is the mother's voice recognized, when she herself is unseen?

When do expressions of joy over single pure tones (tuning fork), a couple of harmonizing tones, a chord, the scale, a melody begin? When are signs of displeasure at shrill tones, harsh discords, such as simultaneous striking of several adjacent keys of a piano, observed? Or is a child pleased by these latter things the same as by music?

When delight occasioned by a musical tone is first recognized, one should measure how many meters distant from the instrument the child takes notice of the same.

One should observe the effect of violin playing upon the hungry infant in comparison with the same upon the child neither sleepy nor hungry.

What kind of a noise in the distance is first and most frequently observed, (each to be estimated according to surroundings; it might be the barking of a dog, the whistle of a locomotive, the door-bell)? When does the child become indifferent at the frequent hearing of these sound impressions? What does it consider the cause of these same noises?

When does it begin to take pleasure in the tearing and rattling of newspapers?

In noisy strokes upon the table? How long are both continued?

THE SENSE OF TOUCH.

Sensitiveness to Touch.—At the beginning, the eye does not close itself when it is wet, as by a drop of water—when does the closing from such stimulus begin to be regular?

Stroking either side of the nose usually has for a result the closing of the eye on the same side; when the tip of the nose is touched both eyes are closed. On the other hand the stroking of the tip of the nose or the lips often causes the eye to open widely, as in sucking. Furthermore, the stroking of the back portion of the tongue producesa pinching of the eyelids and also choking move ments. When?

At first, touching the eyelashes, the cornea, or the conjunctiva causes only slow closing of the eyelids. When does this occur quickly?

Touches with a hard pointed pencil on the skin of the trunk and limbs are not felt at first. When do movements in response to these touches first occur?

Pronounced extensive dermal stimulations cause crying from the very first, but no defensive or warding off movements. When are these to be observed for the first time?

Is the infant awakened by touches of the pencil upon the forehead, nose or cheek, or does it continue to sleep without making any movements; what changes of the countenance eventually appear during sleep?

Touching the lips with a feather often causes the infant to make certain responsive movements—what movements? Touching the lips with the point of a hat-pin is at first unnoticed—when no longer unnoticed?

The case is similar with reference to the skin at the opening of the nostrils; upon touching the same, when is sneezing first to be observed? When does the turning of the head as if repelling this stimulus manifest itself?

Does touching the sole of the foot cause a spreading of the toes? Or does it cause a bending or flexing of the same?

Does the hand close itself by touching its surface? Does this occur also in sleep? At what age?

When will a strong pressure with the point of a hat-pin upon the skin, e. g., of the thigh, be responded to with crying, with changes in the expression of the face, or with defensive movements? It is unnecessary and not advisable in these harmless investigations to stick the pin into the skin.

SENSIBILITY TO TEMPERATURE.

When are there expressions of displeasure at too cool or too warm a bath—the temperature should be exactly stated.

Within what limits of temperature, both during its first days and later, does the child manifest signs of pleasure? When is shivering, caused by cold, to be observed? When are there expressions of discomfort caused by too great bed-warmth, or too close proximity to the stove? Describe the manifestations.

Does the child cry on account of too warm or too cold milk in its nursing bottle, or on account of too warm flannel clothing? The temperature limits that are preferred for the milk in the nursing bottle, should be exactly noted. The thermometer must be verified.

The impression which the touching of a cold wet cloth, or a piece of ice, makes can be recognized by changes in the expression of the countenance.

Will very cold hands and feet be continually endured without expressions of displeasure? (Little children very often have cold hands and feet without manifesting any signs of discomfort.)

TASTE.

Investigations which Professor Kussmaul made upon new-born infants should be repeated upon older children.

At first no distinction is made by the child between very sweet and only moderately sweet solutions of sugar. When does such a distinction first become recognizable?

What expressions of displeasure appear when the tongue is moistened with some drops of quinine solution, with some drops of diluted lactic acid, of a solution of common salt in water? Is the sweet always preferred? When will the child lick sugar?

What expressions come over the face when a bit of glycerine is dropped upon the tongue?

If the nipple of the nursing bottle is moistened with a little glycerine, does the infant then take the mixture of cow's milk and water which was before refused, without setting it down as if it sought for more sweet? Or does it quickly stop sucking after licking off the glycerine? In the latter case it must already be able to distinguish sweet substances.

SMELL.

In order to test the sensibility to smell, small quantities of sweet-scented and also of ill-smelling, disagreeable substances should be placed upon the nipple of the nursing flask, and one should observe whether it is then repelled or whether it is taken with expressions of pleasure, or of displeasure, or neither.

What sort of warding off or defensive movements are made when an unpleasant smell, such as that of petroleum or vinegar, is experienced? Are the same movements also evoked in sleep? What changes of the countenance occur? Does any choking or strangling appear?

Is sour milk distinguished from sweet through the sense of smell alone? When?

Do unpleasant odors, without any other unpleasant accompanying sense impressions, cause the child to cry?

At what age does there appear a blunting of the sense of smell—an indifference toward earlier desired sweet-smelling, and

formerly declined ill-smelling substances? Will, for example, the disinclination to take milk out of a bottle smelling of petroleum, be overcome after three or four attempts, if no pronounced hunger or thirst impels the child thereto?

Can the infant distinguish his mother from the nurse in the dark by the sense of smell alone—that is without touch and without hearing the voice?

THE FEELING OF HUNGER.

The cry of the hungry and thirsty child is readily distinguished from the cry of the chilled, fatigued child or one suffering from pain—in what way?

At what age before learning to speak is the infant in a condition to manifest its condition of hunger by other means than by crying or by general restlessness?

It is to be noticed that from birth on, the time between meals with the intense desire for milk, gradually lengthens itself and the frequency of taking the milk is gradually lessened. (The smaller the stomach the oftener it becomes empty. The more it can hold, the longer will the hunger be postponed, there being no lack of nourishment. In healthy newborn infants the stomach holds only thirty-five to forty-three cubic centimeters; after two weeks, one hundred and fifty-three to one hundred and sixty; after two years, seven hundred and forty—leaving out great individual variations. There remains in the intervals more time for the infant to turn its attention to other things than food, since the child, the older it grows, sleeps so much the less and consumes its food so much the less rapidly.)

One should observe the influence of the occupation, of the change of air, of the activity, of long and frequent sound and light sleep upon the liveliness, by means of which the child expresses its feelings of hunger.

One should observe the conduct of the hungry and the satiated child respectively, on seeing the nursing bottle. Is the nipple always sufficient to excite the infant? Is the sight of the bottle or the touch of the same (also, if it is empty) a cause sufficient to evoke expressions of desire?

Does the desire for food also express itself by means of biting and chewing as well as by smacking the lips, long before the

teeth appear? Or have these instinctive movements nothing to do with the expressions of hunger—as for example, the gnashing accompanying the first cutting of teeth?

THE FEELING OF SATIETY.

In general, the hungry infant is restless and cries, while the satiated one is quiet and still. At what point of time (very early) is this distinction unrecognizable?

The satisfied child as a rule will not suck strange fingers; the hungry child will do so at once. At what day of life is this distinction noticeable?

The hungry child does not laugh; the satiated child presents an indescribably sweet expression, with a scarcely perceptible smile—a raising of the corners of the mouth—When first?

A sure sign of the feeling of satiety is the energetic pushing away of the nipple after sucking (especially if the nursing bottle is not yet empty). This characteristic of instinctive movement appears very early—When?

It often occurs as early as the third week with some infants.—W. O. K.

Does the satiated child show a more frequent inclination to sleep than does the hungry child? Or is the reverse true? How in this respect does the behavior of the child change in the first six months of its life?

Certain is it that the satiating of hunger is the infant's first and greatest pleasure. On the other hand the increase of hunger, and of thirst (which at first is not separated from hunger), is the greatest discomfort that can overtake the healthy infant.

THE FEELING OF FATIGUE.

In spite of the lethargy of the newly-born it might seem doubtful whether it is easily fatigued, because it *apparently* makes but little effort mental or physical. A closer consideration shows, however, that several causes of fatigue must be operative directly after birth; that a feeling of weariness may come soon after that event; and that a physiological lethargy of the infant is connected with that feeling.

How is the voice of the fatigued child to be distinguished from that of the hungry infant or of the one perceiving pain?

Much seeing and hearing fatigues the child and prolongs its crying—When?

How does the child that has taken up a few words of his mother-tongue, express in language this feeling of fatigue—by such words as "sleepy" or "heavy"—what other words?

This feeling of fatigue may be overcome by a change of occupation.

In the new born and the infant, whose muscles in and of themselves are of but little service, and resemble the muscles of tired adults, as Soltmann proved by comparative experiments upon animals, there are two actions especially that require strong muscular effort—viz., crying and sucking.

We must also take into account the character of the food, which consists uniformly of milk during the period of much sleep. Milk and whey in large quantities exert a somnific influence even upon adults. The milk may also contain somnific materials from the blood of the mother. Finally, the almost uninterrupted act of digestion of the milk scarcely ever discontinued more than two hours at a time, may, by collecting blood in the vessels of the digestive organs, withdraw from the brain, temporarily, larger quantities of blood (which are necessary for the waking condition).

SLEEP.

How long does the infant sleep without a break? How many hours out of the twenty-four each day?

How can one recognize the sleepiness of the child? Will sleep appear amid noisy surroundings, in the midst of nursing, by bright daylight? or more frequently when in the darkness or semi-darkness, and all is silent? At what age is the former still the case?

Is the sleep at the beginning quiet and peaceful, or restless?

One should count the respirations per minute, of the quietly sleeping infant often during the first week, (one hour after going to sleep) later once a week, and still later once a month, in order to find out whether the frequency of the respirations changes with the age of the infant.

Does sleep appear within five or ten minutes, if one lays the child upon a pillow with the face down and pats it (Baldwin)? At what age?

Is there a special mode of patting it? Does sleep occur as easily when the nurse or father tries the "wordless" method, as when the mother undertakes it?

PLEASURE.

The eyes are more widely open if the child is pleased and shine brighter than usual. When is this first observed?

When is a smile—indicated by a pleased drawing up of the corners of the mouth—first recognizable? When the first audible laugh? When the crowing and screaming? Also a kind of cooing? It is well to note down all inarticulate expressions of pleasure.

Pleasure is shown by the raising of the arms—when? Especially by expansive movements with an upward tendency. One should notice also the expressions of displeasure shown by movements of a downward tendency.

What first pleases the infant—the bath? Or sweet milk of the right temperature? Or the putting on of dry diapers? Or the removal of the clothing?

Or is it pleased by moving objects, especially colored ones, swinging tassels, or music? Or over sweet smelling objects?

Does the child laugh or show astonishment or cry when it thunders and lightens?

One should notice carefully, especially during the first months, everything which particularly pleases the child and if the delight over a certain thing and its interest in it continues long or not; also whether the child after a long interval exhibits again the pleasure previously shown in the same object.

At what age is the pleasure first plainly expressed at the approach of a longed-for-day or occurrence—(anticipation, as we say)?

PAIN.

When the very young child feels pain or great discomfort, expression is found in a cry different from that evoked by hunger or thirst. One should try to put on paper the interval between the tones, and notice the day on which is first heard a crying out as the expression of severe pain caused by an accidental push or a sudden fall.

At first all expressions of pain are weaker than later. When do they become plain and strong?

Also those movements made as if to ward off and avert attacks of pain are made at first more slowly than in adults. When are these movements made quickly?

When are the eyes first wet with tears? When do the first tears of pain roll down the cheeks?

When does the child for the first time strike with its own hand the hard object on which it has hurt itself—e. g., the corner of the table?

VEXATION—DISPLEASURE.

What first evokes strong expressions of displeasure? A cold bath? Too cold or too warm milk?

When does the child first cry at being left alone?

What impressions first induce the turning away of the head?

If the mother herself purposely turns away the child's head from the breast, does the child of itself return eagerly to it again? When?

Can the displeasure of the child at wet clothing be recognized with certainty?

The safest token of the beginning of displeasure is the turning down of the corners of the mouth—when first observed? Also after some time (how long after) continued occupations, which at first were pleasing, produce this movement of displeasure. The safest criterion of the greatest displeasure is the cry with the mouth almost squarely wide open. When is this first seen?

During the earlier days of life the feelings of discomfort outweigh the others? How many hours out of the twenty-four, when the infant is not sleeping, does it spend in a contented—how many in a discontented state of mind?

FEAR.

What objects and what occurrences arouse the first expressions of fear, as crying, clinging to one, and movements of defense?

At what age does the fear of animals, of machines, of black-clothed strangers begin?

There is of course hereditary timidity which manifests itself as opportunity offers. How happens it that many children are afraid of dogs, pigs and cats before they know the dangerous qualities of these animals? A little girl was afraid of cats as early as the fourteenth week. Thunder makes many children cry. A boy in the seventeenth month was afraid of his new-born sister.

When do shadows, thunder, and the sea first evoke fear?

But right here one should observe that manifestations similar to fear may be produced by totally different causes. One should observe closely whether the child is timid or courageous, restless or quiet.

Does a child learn more through its own experiences to fear biting dogs, hot stoves, pointed and sharp instruments and other dangerous objects, than it does through warnings in words and gestures without himself having been injured?

How does a child overcome its inherited or acquired timidity? When?

Here we must very precisely distinguish whether the cry

occasioned by a former fear-evoking sight or sound, is only a sign of dislike or actually indicates alarm. One should note exactly in each individual case how a timid, alarmed, terrified child is freed from this failing.

It is altogether wrong to maintain that a child has no fear unless it has been taught it.

TERROR.

How does the terrified child conduct itself?

Does it convulse, draw itself together and cry with terror at a sudden sound, a shock, a fall?

How does the infant act when dipped into the cool water of the bath? How on being awakened? Frequently a child is terrified at sudden loud talking and unexpected starting of noisy movements in close proximity, e. g., the turning of a water-wheel. It should also be observed whether the sudden stopping of a long continued sound to which the child has become accustomed, evokes similar symptoms of terror or only astonishment; or is mere indifference manifested?

Terror at the appearance of an entirely inconceivable object, at the sudden disappearance of large objects, also at tricks of jugglery, is lost after a few repetitions of the experiment; but it is to be inquired if this is the case when there are long pauses between the experiments, and at what age does it take place?

An infant who was terrified on hearing a shrill whistle in close proximity was no longer terrified after a few repetitions. After how frequent repetitions and with what intervening pauses is this true?

ASTONISHMENT.

How does the first astonishment express itself? Is the mouth open? Are the eyes wide open? Does complete immobility appear?

When does astonishment cause the elevation of the eyebrows? When does it produce wrinkles in the forehead?

What at first most astonishes the infant? Is it a strange voice? Music? A new gymnastic movement which one makes before it?

When does the falling of a stone from the table produce astonishment? When does a large soap-bubble floating in the air? Does the astonishment continue after the bubble bursts?

When is the child astonished for the first time if one, by means of colored panes of glass suddenly placed before the only light in the room, changes its entire illumination?

Astonishment over a new taste manifests itself in a manner similar to that caused by novel sensations of touch, e. g., touch sensations evoked by the stroking of velvet or fur, or the moving of the hand in a sack filled with oats. This form of astonishment is different from that evoked by a new sight or sound. One may observe this difference as indicated by the expression of the countenance.

The whole behavior of the child when astonished is completely original with it, not being in the least acquired by imitation or through training.

One can observe the first manifestations already long before learning to speak, of the remarkably lively imagination of the infant, for whom the commonplace things have a great significance when they are transformed.

Later one should attempt to record the independent activities of the child with reference to the surrounding circumstances. For example—the children are permitted in the third year of their age to step on and crush out every "toadstool" in the garden or woods. At home in the house there is developed from this a game or play which consists in this:—a child sitting in a heap, with raised elbows, represents a "toadstool" around which the other children stamp until they tip it over. "Even the six year old sister plays the game for months with the greatest enjoyment, and all three are often compelled to pause in the game so overcome are they with laughter. It is throughout a natural laugh of great joy over this particular play." One can observe similar inventiveness in almost every child.

A little boy transforms his wooden blocks into fish, lays them all in definite positions upon the floor, which now represents water, and catches them with the greatest zeal.

Such proofs of the spirit of invention must be recorded the more exactly the earlier they occur, as, for example, the first "Hide-and-seek" game and the first attempt of the child to represent a horse or other animal.

Later one should permit the child to state in his own words what this or that stick of wood or stone resembles.

Play offers a wide scope for the child's practical ingenuity. Play owes its chief charm to mimicry and a kind of make-believe of the action of

adults. Much childish play owes its charm to a sort of partial self-deception. Children imagine or make believe they are animals, soldiers, Indians, hunters and veritable Davy Crocketts, Daniel Boones and Buffalo Bills. They play school, church, circus or congress. If hit with imaginary bullets from imaginary guns, they fall down and play they are dead. If they step on a crack when walking on the sidewalk, they are "going to have bad luck" or are "poisoned." What child has not played with mud-pies, moss carpets, brooms made of pine tufts, cucumber pigs and horses with eyes of tacks, or a train of cars made of chairs? All this is done by the "Alchemy of the imagination." Only a rough basis of anology is needed for these creations of fancy. A boy will derive as much, and even more, pleasure from riding a stick as he will from possessing the most richly caparisoned hobby-horse.

Children are apt to find great excitement in the marvelous, and they delight in turn to excite others. This frequently leads them to tell their grotesque stories surcharged with everything but truth. "To fly up to the sky" is not an impossible act for the average child to perform.—W. O. K.

DREAMS.

Already in the first months, the infant while it sleeps makes various movements. It moves its lips as if occupied in sucking; the extremities, as if exchanging an uncomfortable position for a comfortable one; and also moves its hands toward the face, and even to the eyes. One should observe all these movements of the sleeping infant with reference to determining whether somehow the events of the day, or dreams, stand in a causal relation to them—especially the fear of animals.

Further one should notice what the two or three year old child says when it talks in its sleep—should seek to understand and answer it. Can one by means of low but distinct talking, impel the sleeping child to answer?

How does the sleeping child three years old act if one without awaking it permits pleasant odors, unaccustomed touches (with a soft brush, a wet paper, or a warm coin) sound stimuli, and light to impress themselves upon its sensorium? Do they later relate that they heard this or that dream?

When my little daughter Gretchen was three years old I caused a little luke-warm water to trickle from a sponge upon the bare-skin near the arm-pit while she was asleep. Within three minutes she began to moan and cry in her sleep and finally exclaimed in terror-stricken tones "Oh, I am bleeding to death—my side is all bloody. In her dreams she interpreted the few drops of water to be actual blood and for several minutes after being awakened she could scarcely believe that she had not actually lost blood.—W. O. K.

THE FIRST SUGGESTION.

If an infant somewhere in the middle of the second half-year of its life—after more than a half or three quarters of an hour's endeavor, is not put to sleep in the dark by means of monotonous sing-song and rhythmic stroking with the dry, warm, soft hand, let suddenly a very bright gas light or petroleum flame be brought near and observe whether the immediately closed eyes remain closed and the infant quietly sleeps without once opening its eyes.

In which month does (the sight of) the nursing bottle produce undoubted movements of the infant from which it is to be recognized that it has come to regard the nursing bottle as standing in a causal relation to his feeling of hunger?

Before the beginning of the fifth month will the clothes, for example the bringing out of its hood and cloak, cause expressions on the part of the child which lead one to believe it to understand the purpose of these garments, and has certain definite associations with them; e. g., his willingness, raising the arms, shoving them into the sleeves, exclamations of joy (because it is to be carried out into the open air or to be given a ride).

When does it take place with certainty, in the case of the child that perceives pain after it has somehow hurt itself, that if the attention is diverted, no expressions of pain remain? And how long does this influence obtain?

DESIRE.

The animal desire for milk is, in the case of some new-born children, not to be distinctly recognized. When may it be recognized by the opening of the mouth? When by the stretching forth of both arms?

The first desire for a definite object appears much later than displeasure at its position or surroundings. One observes when and how the desire for an object other than milk is distinctly expressed and how, then, by degrees, namely, by means of the voice and inarticulate sounds, the desire comes to be clearly expressed—e. g., the desire to be carried out into the open air, to be taken up into one's arms, etc.

How does the infant, in case his desire has not been realized, endeavor to reinforce the same in case it should repeat itself?

How close upon each other will the child repeat his resultless efforts to obtain something, and will he return to it later? e. g., the desire to grasp the tobacco smoke, the jet of water, the candle flame.

How often will the infant (that has just learned to grasp) grasp after an intensely desired object which is separated from it by means of a large,perfectly clear,vertical pane of glass,before it will give up the fruitless attempt, and how will it then conduct itself? Which preponderates—the desire or the astonishment at the unattainability of the desired object?

REFLEX MOVEMENTS.

Was its first cry on its entrance into this world loud, or only a low whimpering? Or was there instead of either of these, only signs of enjoyment? At the beginning are the inspirations and expirations during the sleep irregular or are they already regular after the first day or two?

When are yawning, coughing, snuffing, sneezing and snoring observed for the first time? On touching the tongue does there result an elevation of the wings of the nose, or of the corners of the mouth?

After touching the opening of the nostrils is the face distorted? After touching the lips?

Will the arms be raised up or is there only a contraction of the muscles, a shrinking, instead, at a sudden commotion,—e. g., the tearing of the cloth upon which the child lies?

Does the child start when the darkened room is suddenly lighted, e. g., by an electric light? Is it the same in the case of a sudden sound?

Does the infant turn its head toward the light, for example, toward the window, if its face is directed toward the wall?

When will a whistle from behind cause the infant's head to be turned? When turned toward the mother's breast? When toward her face?

Will the stroking of the sole of the foot cause as quick a drawing up of the leg at the beginning of life as later? Or is it more slowly contracted? Does such a stimulus cause a frequent spreading of the toes or a bending of the same?

Does a suddenly appearing bright light cause the infant to cry,

and does a loud clap or similar noise always cause crying?

When does a tickling first produce laughter?

If in sleep the temples are touched without awakening the child. does it move the arm towards the locality touched? Does it do this with the arm of the side opposite to the one touched? Or with both arms? (Pflüger's Investigation).

What sounds are made by the new-born infant when its back is gently stroked?

One who has opportunity to make thorough investigation should ascertain by means of carefully touching the different portions of the skin with a small dry brush, whether the brush at certain points (e. g., the back, arm-pits, sole of the foot at certain ages) produces a laugh; and at other points provokes cries of displeasure. It should also be observed whether the left half of the body retains the sensation the same as the right. But on account of the danger of increasing the tendency to these reflexes, but three such trials at the most, should be made each day and these trials should be separated by intervals of considerable length.

INHIBITION OF THE REFLEXES. SELF-CONTROL.

Does the cry cease at once if the infant is laid upon a pillow with its face downward?

Does it quickly become quiet in spite of loud and prolonged crying if one sticks the little finger—not its own—into one ear? At what age does the manipulation no longer work as a quieting means?

A very important method with which to quiet restless, crying children, to gladden them, or, at least, to make them "sing another tune" is to divert their attention. One should carefully record when and how, both at first and later, this diverting the attention succeeds, and whether it is often unsuccessful. One should proceed in this with the greatest possible care without threats or means of frightening and should note when impressions remain completely ineffective, e. g., in the case of the hungry, sucking,crying, tired and sometimes sick infant, and whether these same impressions will later, under more favorable circumstances, prove effective.

When does the child for the first time execute a movement which indubitably shows self-control, but which has never before,

when previously made, exhibited the slightest trace of such self-control?

When the child first controls its evacuations depends chiefly upon the training received at the hands of the nurse. In what consists the chief features of the management which induces this form of self-control so important throughout the whole life?

At the beginning of the first year children are accustomed to scream after the evacuation; later, to scream before it, formally announcing it. In the latter case they have had the experience that the threats, the chastisements, and the natural disagreeable consequences of the immediate reflex activity cause more discomfort than waiting does. We have here one of the strongest effects of early training, as is proved by the behavior of animals and many insane persons.

SUCKING.

Not infrequently does the new-born infant suck the skin of the mother's breast at the wrong place. When does it seek and find the nipple without help? Does it suck it immediately and with vigor the first time its lips touch it?

Smooth objects are eagerly sucked, a lead pencil, mother's fingers, etc.; but many rough, ill-smelling, very cold or very hot things are not. Of what sort are the preferred objects?

When do sucking movements fail to occur after tickling the tongue or lips? (Preyer records a case where he touched with his finger the tongue of a child, and moved his finger to and fro or turned it on the upper surface of the tongue, three minutes after the head had emerged—the child was already crying feebly as soon as the mouth was free—the babe immediately stopped crying and sucked briskly, but not when he merely touched the lips or put the finger between them. Without doubt every normal child has become acquainted with swallowing before birth.) Do they also take place in sleep?

How long does the child suck without interruption?

How long can the infant continue the sucking movements without intermission?

The intermissions in sucking that occur with shorter intervals in the first days of its life than at a later period, depend in part upon fatigue, in part upon the quicker filling of the little stomach.

One should count how many swallowing movements and how many movements of sucking are made in emptying the nursing

bottle, whose contents have been measured beforehand—and attempt to ascertain from the series of numbers thus obtained the average number of cubic centimeters of milk taken in every ten swallows in the first months.

With reference to the kind of sucking, it should be observed whether it is impetuous, eager, or quietly regular, slow, sluggish, lifeless, intermittent, etc. Some infants draw a great deal of milk quickly into the mouth, with each sucking movement, others much milk more slowly, others, again, draw in a little milk quickly, and still others take a little milk feebly and slowly.

These differences are indicative of the infant's temperament.

THE FIRST IMITATIVE MOVEMENTS.

It is very difficult to distinguish the first attempts of infants to imitate a motion, e. g., of the hand, from chance coincidences. One should not record among the observations, movements which the child has never before made, simply because it may imitate it a single time without guidance before it has ever shown itself capable of imitating something entirely new.

But if—that which may happen as early as the fourth month—a new sound is repeated plainly and with careful emphasis by the child, even if it be repeated only a single time, then is the connection of the peripheral ends of the auditory nerves with the endings of the motor nerves of the larynx, proven, and thus the organic circuit in the cerebrum itself is demonstrated. It is, therefore, important to observe early the movements which may be imitative and become informed concerning the very characteristic talents of imitation which show, as early as the second and third four-months of life, marked individual differences.

Then expressions of the face, gestures, and sounds should be observed; later these movements of the arms and legs, of the hands and feet, which are new to the child.

EXPRESSIONS OF COUNTENANCE.

Expressions of countenance and gestures arise chiefly, as is well known, from imitation. Not only persons born blind, but also those who become blind at an advanced age, are distinguished from those who have sight by their lack of the play of feature. Their expression of countenance shows only slight changes; their physiognomy appears fixed, uniform; the muscles of the face move

but little when they are not eating or speaking. Little children also lack a characteristic play of feature, hence the difficulty of making portraits of them, or even of describing them. Different as is the contented face from the discontented, even on the first day, different as is the intelligent face from the stupid, the attentive from the inattentive, the difference cannot be completely described. In the second half of the first year children act after the example of the members of the family. Speak gravely to a gay child of a year old, and it becomes grave; if it is sober, and you show a friendly face, the child in many cases brightens up in an instant. Yet it would be premature to conclude from this that all the means of expression by the countenance are acquired solely through imitation. Some mimetic movements, are of reflex origin. The same is true of gestures. Others may be instinctive.

The eyes. Are the eyes always wide open when the child strongly desires something, milk, for example? During sucking —especially at the beginning of the same? Are the eyes wide open when the child is pleased? In what week is this first observed?

Are the eyes half closed in fatigue? When does it sleep with half open eyes?

A pinching together of the eyelids appears when? During crying? Wrinkling of forehead? When the tongue is touched or the nose stroked? Do the same pinching movements of the eyelids occur when other unpleasant sensations are roused?

When is there a single closing of both eyes occasioned by surprise? When by fright? When occurs a repeated opening and closing of both lids at the tickling of the nose with a feather, therefore genuine blinking?

How often must a loud noise of very short duration be quickly repeated before the winking ceases?

When is an inquiring look distinctly observed for the first time?

The mouth. When is a protruding of the lips, as a sign of attention, first noticed? As a sign of expectation? Before kissing? On smelling?

A peculiar expression of children and of many adults is the protruding of the lips when the attention is strained. The external occasions of this

remarkable alteration of the shape of the mouth may vary to whatever extent, yet they all agree in this, that after the first week they introduce a vigorous strain of attention yet the protruding of the lips appear long before the development of the ability to examine objects. The protrusion of the lips here indicated is quite different from the pouting of sullenness.

When are the lips protruded as a sign of dislike (the pouting of a later age)?

Is the mouth wide open before putting the child to the breast? On looking at the same? At about what distance?

For the purpose of judging the temper of the child with certainty, there is no surer sign than the raising and lowering of the corners of the mouth. The former is absent without exception when the child is sick, or even suffering from slight indisposition, when it is displeased, wet, tired, hungry, thirsty or cold.

All of these expressions of displeasure are noticed even by ordinary observers, to be accompanied by drawing down of the corners of mouth. On the other hand, the cheerful, healthy, satiated, warm, dry child manifests a raising of corners of the mouth.

If these signs only are present, the cultivation of the senses is already vouched for. The grimaces of the new-born child are very different from those which the child makes later for his pleasure and which are of no physiognomic value. A description, however, of the peculiar movements of the muscles, as the wrinkling of the forehead, the movements of the lips—and still better, instantaneous photographs, are of interest because these expressions of the countenance are soon lost—totally forgotten—and later appear step by step, with the intention of mimicry.

Does a wrinkling of the forehead fail to appear at an upward glance? Is it observed during fright? At being awakened? Before crying? After tickling the nose or cheek with a fine dry brush? Are there more vertical or horizontal wrinkles in the forehead? Since in many children during the first six weeks both kinds of wrinkles are but slightly marked, one must examine carefully before it can be asserted that they are lacking.

KISSING.

Often the child sucks the mother's lips when kissed upon the mouth—at what age is this still continued? (Sometimes begins as early as the tenth day.)

Then again some children lick the lips of the mother when kissed—When? (Begins about the thirtieth week.)

Does the child turn away if kissed by a stranger? At what age does he endure it without resistance but without returning the kiss? When is the kiss first returned? Imitated? The understanding of the expression "Give me a kiss" is indicated by bringing the head nearer and protruding the lips—when? The significance of a kiss as an indication of affection is first recognized at what age?

GESTURES OF VARIOUS KINDS WITH VARYING SIGNIFICANCE.

One should observe at what age the nodding of the head indicates "Yes" and the shaking of the head "No," also if the nodding does not for a time indicate negation. One should also consider the meaning of the intentional shrugging of the shoulders, which in many children takes place without intelligent imitation —whether it signifies "I don't know" or "I can not" or "for aught I care," or something definite.

How has the child learned to regard the laying of the hand upon the breast as a sign of pleasure over an agreeable taste? When and how has he learned to point with the hand? With the index finger? Begging with the hands?

THE FIRST GRASPING MOVEMENTS.

At what age is an object placed in the infant's hand, held for a time? And when, after it is alternately placed in the left and right hand, is it looked at?

When are the hands (no longer accidently but with an evident purpose of sucking some desired object) brought to the mouth? When does the child first try to put its own fist into its mouth? When does it make the same movement with some hard object, as a heavy glass cube?

Are objects which touch the hand at localities other than the palm, grasped by the finger? When is a bell first grasped and rung? When is a rattle first shaken and swung about? When does the child reach rightly or wrongly for an object which previously it has simply looked at?

When does the child for the first time look at its fingers when it has failed to grasp something?

With which hand—left or right—does the child make the first independent movement, i. e., without imitation? Or does it use both alike?

Are the first successful or unsuccessful grasping movements made quickly or slowly? Does the child when in good humor, if opportunity is given to it—as, for example, when it is let play, without clothing, on the carpet—make grasping movements with its feet? Or are these motions entirely lacking?

HOLDING THE HEAD.

At first no child is able to hold its head in an erect position, it falls to the front or back, to the right or left. In which week does it begin to try to hold its head erect? One should note the day when it succeeds in balancing its head for a moment and observe the duration of the equilibrium, which, at first only a few seconds, increases in length until finally the swaying back and forth of the head entirely ceases.

One should try at the end of the second month to hold the head erect several minutes by means of a kind of cravat of stiff material and notice whether, after a quick removal of the supporting neck-band, it can balance the head a moment without help. After such an attempt, does it trouble the child to balance its head independently? Has the attempt pleased it—a favorable result being supposed—or has it made it cry? Does the experiment succeed more easily if the attention of the child is drawn to something else?

After the child is once accustomed to hold its head erect, during its waking hours one should observe whether, in the first six months, it ever, in case of sickness, lets the head hang over as in the first two months.

MOVEMENTS OF THE HEAD.

When the child's head is first laid on the breast, does it move wabblingly back and forth? Does this wabbling also take place when receiving the nursing bottle? On putting the same to the mouth?

Many infants turn the head very little and slowly in the direction from which a sound comes; others with remarkable quickness. One should notice the acceleration in the former case, and in the latter the decrease in alertness as compared with the previous normal condition.

TURNING OF THE BODY.

The infant lying on its back cannot turn over by its own

efforts alone. On what day is this turning over first possible? Is it from right to left, or from left to right? In the bath is the body of the child, if but slightly supported in a sitting posture, turned strongly toward the right or toward the left? When does an infant, laid on its side on a pillow in such a way that it soon comes to be on its back, first try to turn itself over? When does it first succeed? When begins the pleasure of frequent rolling over? (As rolling on the floor.) In all these movements no help is to be given to the child.

MOVEMENTS OF THE ARMS AND LEGS.

The stretching of both arms, of both legs in the bath, or in bed when first noticed? The voluntary stretching of one arm or one leg without the other, when first observed? The alternate stretching and flexing of an arm or leg of itself is plainly unmistakable when? When first the alternate stretching and flexing of both legs, of both arms, or all four members? When is stretching immediately on waking first noticed?

The trembling, pushing, purposeless, uncertain, impulsive movements of infants are already in the first month strong and frequent. How long until they are no more seen in waking hours? Do they frequently occur in sleep?

COORDINATE AND INCOORDINATE MOVEMENTS.

At first the hands move often back and forth to the face, and if by chance they reach the mouth they are sucked. This custom lasts long with many children. When for the last time observed?

Bilateral and symmetrical flexion and extension of the arms as well as the legs, take place very early in strong children; one should observe how the fingers are held; whether, for example, the right and left finger movements are symmetrical or not as, later by imitation. in obtaining desired objects?

When is the hand, and when the forefinger (of the left or right hand) first independently used for pointing out direction, or an object?

TOUCH.

The first perceptions of contact are in sucking. Which form of the nipple, etc. is at once preferred? Is the breast of the mother or nurse taken at once or refused? Accepted with the aid of another? Or immediately without such aid?

In the case of such children which, after becoming habituated to the customary sucking of the bottle, will not again take the breast at once on being placed to the breast, one should bring from behind through the arm-pits, the rubber nipple of a nursing bottle close to the breast and let the child suck at it a moment. Then draw it back at the moment when one slips the breast into the mouth of the sucking child. Thus one may succeed in making stubborn "bottle children" again into "breast children," which in many cases is of course very desirable. But if the touch perceptions coming through the lips and tongue are already finely discriminating, this can no longer be easily accomplished.

When the first touching with the fingers occurs one should notice which surfaces are preferred, smooth, sticky, hard, soft, rough, hairy, warm, cool, dry or wet, indicated by the pushing aside or by repeating the touch movements.

The first objects which are played with, balls, sticks, keys, their approximate size, the nature of their surface, are to be observed with care to discover whether the child prefers certain objects which it chooses out of several, and plays with repeatedly on different days.

CREEPING AND SLIDING ABOUT.

In what way does a child make its first creeping movements? How does it slide along? Does it always use one and the same knee—which? Or are both knees put forward alternately? What induces a child to creep? The sight of a desired object is early a motive for seizing, later for creeping—when?

If a child in the middle of a room on a carpet is left to itself one should observe what it is that first determines the direction in which it endeavors to move forward—whether the mother or or some immovable object. If it makes no creeping movements one should place the child on its hands and knees and see if it begins to move itself from the place and glides straight ahead or turns to one side.

Is the right or left knee always put forward first; or is it now one and then the other?

When the child begins to learn to go about one should observe very attentively how it moves from its place, whether it tries to stand up instantly by placing one foot forward proceeding from creeping to standing and walking, or if it puts forth its feet alter-

nately only when it is held up, and supported in its attempt.

The forward movement "on all fours," i. e. on the hands and balls of the toes—when first observed? Is this learned by imitation or is it artificially imparted to the child? When does the child first kneel down, holding its body erect? Does such kneeling occur without especial teaching and before the child learns to walk?

LEARNING TO SIT.

Usually a sitting posture is given to a child by another before it is able to hold itself up, except for a moment, without support. One should notice the day on which, after making the back erect, the child is able to sit entirely unsupported on the table or floor for a second—or sometimes even longer.

When is the child, lying on its back, first able to raise itself without turning its body on its longitudinal axis?

When it has learned to sit, one should notice on each disturbance of the equilibrium whether such a disturbance was caused by turning the head or attempts at grasping. When does the child sitting on the floor raise itself up without help, other than the aid of a hand held out to it? All observations with respect to the efforts made by the child lying down, to raise itself and to sit up, should be made when the child is on the hard floor, and not on the mother's lap or a bed or baby carriage, because in these cases the assistance thus given can not well be eliminated. The desire of many children to sit up before they can do so without help is also worthy of note.

In order to assist a child which is able to sit without support for a few moments, one should try to hold its attention by an interesting object. Does it then hold itself longer in a sitting posture without tipping over?

One should notice if the child enjoys itself when it first sits up alone without falling over.

LEARNING TO STAND.

After the child has been permitted to creep and slide along, so long as it goes forward of itself, one should notice whether it pushes its feet against the floor in raising itself erect, or only lets its legs hang in a passive manner. The first attempts to raise itself up by getting hold of an older person, a stool or chair etc., should be carefully noted.

From this time on one should observe every attempt of the child to stand in the middle of the room or out doors independent of all aid. Are these efforts frequent? Are they of various kinds? Are they energetically repeated? Is the fear of falling noticeable? At this point one should avoid rendering frequent and too great assistance to the child (which is really a hindrance in its learning to stand) by carrying it in the arms too much or hauling it in a baby-carriage, and the actual influence of these and similar things upon its learning to stand alone should be closely observed.

When the child stands entirely alone for the first time does it remain so standing for any length of time? A child that has just learned to stand alone directs its attention to the act of standing and falls easily; does it remain standing longer if its attention is fixed on something else so that it no longer thinks of falling? When can the child, with the eyes blindfolded, first stand entirely alone without falling?

LEARNING TO WALK AND RUN.

It should be noticed how the child conducts itself in its first attempts to go about (being allowed some sort of support, of course), whether it is really interested in the endeavor and puts its foot forward, and if the whole foot-sole touches the floor and the weight of the body is permitted to rest upon it for a moment, and whether it holds itself in a balanced position without repeating its efforts.

Walking with pauses made at tables, chairs and the walls, but without the help of other persons begins when? Lasts how long?

One should observe the first blunderings and stumblings and also notice whether the child, without holding itself and attempting to walk independently, learns to go forward slowly, step by step, or immediately trots off and only after a time learns to walk correctly. Individual children vary greatly with reference to the time at which they learn to walk.

What movements does a child, that has not yet learned to walk alone, make in its endeavors to do so, especially with reference to keeping its balance. How does it move its arms without any opportunity for imitation or any attempts at instruction.

Does the child maintain its balance longer if it attends to it and thinks about it, than when its attention is diverted from it?

EATING AND DRINKING.

The taking of solid or liquid food into the mouth with a spoon and then with a fork, as well as the taking of fluids into the mouth from a cup or a glass, are movements so much more complicated than the easy sucking movements practiced for months in receiving nourishment, that most children require considerable time to learn to eat and drink correctly. One should notice how the spoon is brought to the mouth, how, at first awkward, it becomes skillful in filling its spoon, and should also note whether the child has a tendency to imitate or to go ahead independently and invent according to its needs.

THE FIRST DRAWINGS.

At the beginning of the third year the child should be placed at a table with a pencil in hand and a piece of paper before it, and notice whether (eventually, as sometimes occurs in the case of a circle which one child calls a plate) there is an effort to reproduce.

Then one should draw with the finest possible lines a human figure, plainly designating during the drawing, "head," "arm," "leg," "body," "foot," "hand," and see whether when the child tries to copy the figure, it makes an effort to imitate only the movements of the drawer without looking at the drawing. Finally one should notice when the child for the first time, without a pattern, at the mere hearing of the word "man" etc., draws recognizable figures, at first only with straight and later with curved lines. (Baldwin). Then it has first shown its ability to reproduce a picture from memory.

CLIMBING AND EXERCISING.

Usually one permits little children to begin climbing and exercising much too late, although in so doing children are robbed of great pleasure as well as a means of great service to their whole physical and mental growth. Even in the earliest days of life, one can begin this training. Let one hold over a bed covered with large and very soft pillows, a stick at a height of about 60 centimeters, let the child hang on it with both hands and notice how long it is before the child lets itself fall. (Robinson).

One should try this exercise about once a week, or at regular intervals from one to ten times and then twenty times a month, and observe if the first loud cries of extreme displeasure disappear and the child itself enjoys the exercise of its muscular strength. Then many other exercises for the children of both sexes should be undertaken which may help on and make easier the arm and leg movements, the preserving of one's balance, and may increase the muscular power. To the healthy, unexercised child which makes superabundant movements, daily gymnastic lessons of a few moments each soon prove an unrivaled source of pleasure.

ATTENTION.

When will the child for the first time follow with its eyes slowly, rhythmically moving large colored or bright objects, such as the pendulum of an old fashioned wall clock?

When is a strange voice (for example a bass voice) first attended to by the infant? On what day does the child show signs of pleasure at the sight of the approaching mother? Do the eyes which shine brighter take on an expression of close attention?

A sure sign of the closeness of attention is the protruding of the mouth (other than in sucking)—when is this first observed? By what other manifestations? As for example, the turning of the glance from a fixed object to a new one appearing in the right or left field of vision.

When does the child look down at objects fallen from the table? Glance after a person leaving the room? Follow a finger pointing to a distant object? Look at very distant objects without being incited thereto by an older person?

How long does the attention, once roused, linger on one and the same object? How long, for example, can the child of one or two years fix the eyes. unmoved, upon a strange face with or without the suggestion of another? How long does the child busy itself with a new object picked up of its own accord for the first time? With a bug which moves about, discovered by the child itself?

Does the child prefer to occupy itself alone to participating with other children or with adults—for example, when looking at the pages of its first picture book, or in its first plays? Healthy children must always be busy when not asleep. One should

notice with what they most occupy themselves and to what they turn their attention if they are left entirely alone.

Is the child noticeably curious or not? When does it first show signs of curiosity?

SEEKING WITH THE EYES.

In which week is the breast of the mother, or the nursing bottle, sought with the eyes? In which the absent mother or nurse? Does the child look toward the door through which she has left the room?

After the child discovers the moon and has looked at it for a long time of an evening, does it the next evening seek it with its eyes? Does it look long at it again?

MEMORY.

As soon as the child unites separated words into complete sentences one should get it by friendly questions to tell in the evening where it was in the forenoon, what it did, saw and heard. It should further be observed whether the child in its second year gives evidence in any way that it remembers events of its first year. It is easier in the third to find remembrances of the second. One should observe what pictures, melodies, words, plays are entirely forgotten, and in what particular the weakness of memory manifests itself. Especially to be noted are those cases in which the child shows unmistakable signs of powers of recollection without needing a word of suggestion from its mother. The first attempt to repeat a story after attentively listening to it—be it ever so incomplete—is to be exactly noted with all failures, omissions, lapses, gaps, and repetitions. Likewise the first perfectly learned verse. One should notice after the lapse of how many days during which it is not recalled to the child—the verse is forgotten.

In the second and third year one should go through its vocabulary with the child once a month and seek to determine which words, with respect to their meaning, have been forgotten.

RECOGNITION OF THE MOTHER.

Is there a recognition of the mother in the second or third month which recognition is manifested (without seeing her) by expressions of delight at hearing her voice? Or does it only take place at sight of her? Or on being touched by her?

Is the child affrighted if the mother put on a large hat? How

long a time after the second month does the child, (though not seeing,) hearing or feeling the mother, still recognizes her?

REFLECTION IN A MIRROR.

When does the child plainly show that it sees its reflection in a mirror? That it is pleased at it? When does it endeavor to grasp behind the mirror? When to kiss its reflection? When to like it?

Some children try to grasp the mirror image. One should notice the grasping before the glass, of a child holding in its hand a piece of bread or cracker. Does it let it go in order to get the other, or does it eat its own and look at the reflection, or is it so pleased at the reflection that it forgets its piece of bread or cracker? When do children first speak to their reflection? One should notice the child which in a double mirror first recognizes its profile and its back plainly. Is it astonished? Is it afraid? Does it wish again to be so placed between the two mirrors that it can see its whole figure in profile from behind and then compare this picture with the usual reflection? These observations are not easy since most grown people are unpracticed in the perception of their own profile.

REASONING.

If a child eagerly nursing at the breast or from the bottle is aggravated by the drawing away of the breast or nipple, it takes care, even in its first days. to make noticeably stronger sucking movements, and likewise, if the finger of another is put into its mouth.

If one covers the face of an infant with the unmoved hand, and holds it still, the child can not free itself by turning its head. But if infants once have had the experience of being able to free themselves it is to be inquired whether they every time thereafter consistently turn the head if the face be covered.

After a child eleven months old had learned through imitation to properly blow out a candle flame, it saw the windows of a distant house glistening in the evening sunset and kept blowing in that direction, with the stated purpose of blowing out "Fortune's lamp." Similar cases of incorrect application of certain experiences, which, however, from the standpoint of child logic appear natural, are to be gathered with especial care as to the time of their first and last appearance.

CRYING (WITH TEARS).

Shedding tears without crying appears much later than crying accompanied by tears, and this in turn appears long after the crying which at the beginning of life occurs without tears. The kind of cry is variously modified through the self-control of the child.

One should endeavor to understand the periods and different meanings of the various cries, the crying with tears, the whining and sobbing. The voice of an infant is a remarkably sure sign of its disposition.

THE FIRST SOUNDS.

The first sounds: Only vowels—which ones? When is there heard along with the indefinite vowels, the short ö, a distinct ä, a, uä äü,? When for the first time a distinct ö (long) and o? And e? And i? On what day a pure u? When the diphthongs ai, ei, au, oi, (eu, äu)*? There is nothing to be said concerning the mere mimicking repetition of the aforesaid words.

Consonants: Which consonants (it may be, lispingly uttered) are first distinctly recognized? m, or p, or b? Then g, r, d, t, when? Which consonants are most frequently repeated in the first three months?

One should observe in what order or series the consonants—without considering the mere repetition or mimicking of consonants heard from others— independently appear.

INARTICULATE SOUNDS.

Numerous inarticulate sounds which cannot be expressed in writing, have long before the beginning of speech a significance as a means of expressing certain bodily conditions.

Cries and shouts for joy are easy to recognize, but not the meaning of the sighs, cooings, and other acoustic, and also many varied and scarcely audible exhalations and inhalations which at the time may only occur perhaps as the incidental accompaniments of impulsive movement of respiration, of the larynx, and of the tongue and muscles of the mouth, and hence have no psycho-genetic significance.

LISPING.

During the lisping monologues of babes there are often heard in the second month articulate syllables without any real significance in speech.

*Reference is here made to the sounds of the *German* vowels.

One should try to put on paper these sounds after frequent attentive listening. if possible in full completeness, and in the order in which they were heard.

One should notice here what sounds, vocals, and consonants are expressed oftenest. Perhaps it succeeds in some cases to use the phonograph for fixing the lisping sounds, crying sounds and, especially, clearly and vigorously expressed loud interjections. Also it is here to be noticed what sounds are lacking on the whole.

THE FIRST ANSWERS TO APPEALS OR EXHORTATIONS, BY MEANS OF SOUND-IMAGES.

Already toward the end of the second month we have isolated cases of children who in response to friendly urging by means of words, give us to understand that they have heard something. Can these sounds then, or in the third month, be correctly regarded as imperfect attempts at imitation? Or must the possible agreement of vowels in the supposed answers (which in the third month of life are indeed rare), with those in the words addressed, be considered as accidental? For example, let one say very distinctly to a very attentively listening child "*Guten Tag*" (Good Day) "G-u-t-e-n T-a-g" (G-o-o-d D-a-y). If then the the infant at that early date, answers "G—g" or "oo" with any one of the sounds as "goo" should one then assume that attempts at imitation are to be already predicated? Or does the child again in the third and fourth month frequently make these same (and other) sounds.

MIMICKING THE WORDS OF ANOTHER.

One should notice which of the very distinctly pronounced vowels ā, e, ŭ, ū, o, ä (as in fall), eu (as in the French "heureux," i, ü, then ai, ei, ao, au, oi, eu (German) and oi are repeated with perfect correctness.

Next, one should utter, in a way that the child may clearly see the lips of the speaker, the consonant sounds without the accompanying vowel—e. g., b, p, d, t, g (hard) k (not kay) m, n (not enn), r, s (hissing as in blessing), as (as in easy), etc. In this manner one can observe with respect to what sounds the child's attempts at repetition are successful. Later syllables

and words should be given to the child to be repeated. Many persons speak indistinctly simply because they have not learned plain utterance by means of methodical repetition.

THE FIRST SINGING.

When does a child repeat for the first time a tone which he has previously heard sung? A tone executed on the piano? Two tones? A melody?

Does the child, of itself, make attempts to sing? Be these ever so imperfect they should be favorably encouraged by being permitted to repeat a song after the parent, or even "lead" a song itself together with the early naming of the tones.

One should here observe whether the child, that begins to sing of itself, often sings falsely, and whether this false singing little by little becomes rarer and rarer and whether the child corrects it itself or finds just as much pleasure in singing falsely as in singing correctly.

THE FIRST SYLLABLES.

The first syllable which consists of a distinctly intelligible or clearly recognizable vowel and consonant as "am" "ap," "ma," should be carefully recorded and indeed especial reference to which ones are preferred and to the possibility that already very early one or the other syllables may begin to possess a significance—eventually which?

It will thus be revealed that the child often utters sounds and syllables which do not occur in his "mother-tongue"—the articulation of which is perfectly distinct and which later in the long continued concurrence of useful and un-useful syllables are little by little forgotten. This point should be particularly observed.

Further, it should be observed how the first repeated monosyllabic words (and words consisting of two similar syllables) are changed in the second and third year, until finally only the correct forms of articulate utterance will remain if one notices the habitual mistakes and corrects them whenever they occur.

Finally, the few syllables, dissyllables, etc., that do not occur in the "mother-tongue," (e. g. "atta") which the child has not learned by means of hearing them uttered, should be observed with reference to their meaning.

THE FIRST CORRECTLY-UNDERSTOOD WORDS.

Long before a child can of itself *use* correctly a single word which it hears, it really *understands* a large number of words which it hears others use. Notice should be taken of the manner in which this understanding of the word is proven—whether the child on hearing the word "moon" glances upward toward the moon—likewise as to "clock" and "stove." This directing of the glance on hearing the appropriate word, must be frequently observed in order to exclude the possibilty of mere accidental coincidences.

Another characteristic that evidences this understanding of words are the movements that take place on the obedience to such commands as "come","give" etc.—When first manifested? Also the cases of misunderstanding, especially the confusing of words heard, are well worth observing as "*Ohr*" (German for "ear") and "*Uhr*" (German for clock) "*mund*" and "*Mond.*" When will these words plainly spoken, no longer be confused on hearing them alone, without any intimating or explanatory movements on the part of the one speaking them. Will the child give e. g. its hand if one says "Give" without himself extending his hand.

In all these observations the disposition of the child should be noted whether it is very attentive, cheerful, mobile, or not.

THE FIRST CORRECTLY-USED WORDS.

After the child has imitated many words pronounced to him without comprehending their significance and also has come to understand many which it cannot correctly imitate on account of the difficulty of articulation or from mere caprice, the time comes in which it, to the great joy of its parents, for the first time of itself correctly articulates and at the same time correctly applies a word of its "mother-tongue." These first proofs of a capacity to so express its own impressions, perceptions and concepts by means of articulate speech, that all others understand what the child feels, wills and thinks should be especially noted. The circumstances under which the first correct use of words takes place should also be carefully observed.

Further notice how many different things or events under

different external relations are designated by the same word and emphasize all those common characteristics which should really determine for the child, in its formation of concepts, the choice of words—whether the word stands for itself or in the place of a whole sentence.

DEFECTS IN ARTICULATION.

One should record what sounds on the part of the child, who has already begun to make itself understood by means of the words of its "mother speech," are yet lacking in those words, which by means of others correctly articulated are compensated for and which are themselves falsely articulated, and notice the *point* of time when the word is completely and correctly pronounced. For example:

A little girl said in her third year "*eine keine baue Bume buht*" then "*eine blaue Bume*" and "*baue Blume*" and to the astonishment of the parents within a week "*eine kleine blaue Blume bluht.*" The child could henceforth no longer say "*baue Bume.*" (Observation of Professor Hettner, Berlin).

THE CHILD'S VOCABULARY.

One should observe within the first two years and if time permits, also during the third year, every single word of the "mother-tongue" which the child uses correctly of itself, therefore not mere babbling and prattling.

At the beginning of life, the vowels uttered, as well as they can be expressed in writing.then the syllables and lastly words. must be collated and the concomitant circumstances necessary for the understanding of them must be registered with them in the "Observation-book." Thus one can always follow the history of the development of every word later correctly articulated and used in the correct sense by the child, and thereby gain a sound judgment concerning the requirements, the alertness or quickness, the one-sidedness or the many-sidedness of the mental culture of the child.

As a type of the method of recording such observations without assenting to his conclusions, the records of Gabriel Deville may be of service. (See F. Tracy's "Psychology of Child-hood" D. C. Heath & Co. 1893.)

DELIBERATE MOVEMENTS.

One should observe from the very first the conduct of the infant just before putting it to the breast or giving it the nursing bottle. Increasingly, and quite remarkably, grows from day to day the power of the child to comprehend everything which pertains to its natural nourishment—the milk. When does the infant therefore give evidence that it readily distinguishes the empty bottle (or breast) from the one full? When are the little hands pressed tightly against the breast as if to assist in the flow of milk? When are the eyes and lips widely opened on glancing at the breast or bottle? From these early infant perceptions—this "Association of Ideas" (if one could say the infant already has ideas) is developed "reason" or "reflection."

Later, if the child has just learned to move from one spot to another by creeping or sliding along, one should place it, with eyes bandaged, in the middle of the room, surround it with six different objects arranged in a circle and at equal distances from each other, and notice whether it, after the bandage is removed from the eyes, creeps directly toward the object first seen or first looks about taking a sort of survey and then moves in a definite direction choosing a certain one of the six objects. This choice denotes deliberation.

How often in succession does the child without the suggestion of another make one and the same movement, with the manifest purpose of finding out the cause of a noise or a visible change in the position of a thing? How often, for example, does it open and close a large can (beer-mug) with a lid? How often (in succession) does it tear up a newspaper?

SYMPATHY.

One should record when a child for the first time shows unmistakable evidence of sympathy with a tormented animal or with a child which has hurt itself and experiences pain.

There should also be recorded the special cases of perverted sympathy where the childish fancy ascribes pain even to the wood burning in the stove, and mourns with tears the figures cut out of papers with the scissors, if accidentally the shears cut off a foot or arm. Children that are not at all sentimental may be carried

away by such over-wrought sympathy. One should endeavor to ascertain whether this exaggerated sympathy has been artificially produced or not.

INCLINATION AND DISINCLINATION.

While the turning away of the head and whole body, closing and winking of the eyes and crying may be very early and sure indications of the child's antipathy to certain persons, it is not easy, at the same time these are observed, to determine equally well, signs of inclination; for the particularly joyful outstretching of both arms to the parents without any invitation (accompanied with beaming open eyes) first occurs much later and if the child cries so hard at the disappearance of the mother or nurse, this plaint does not signify that it is done on their account but only that the presence of adults is agreeable to it. On investigation it is found that these indications of pleasure do not occur before the real distinctions are made in the child-mind concerning different persons, therefore before recognition of them is possible, while displeasure may be conditioned upon some subordinate peculiarity as a particular odor, a black dress, some black gloves, without the personality itself being repugnant to the child.

ANGER AND RAGE.

One should notice under what circumstances the child is first angry, as when it first strikes about with marked reddening of the face under violent and very vicious cries. When does it stamp its foot in anger and for what cause? Here it must be very carefully ascertained whether any opportunity for imitation was given, or whether a hereditary disposition may exist. Also the distinction must be carefully made between the expression of discontent on account of an uncomfortable position, the feeling of hunger or of pain, and a real fury at a person, an animal or an inanimate object.

ROGUISHNESS.

With many children under three years, one finds a particular inclination towards roguish answers to serious questions. A small boy who was asked his name replied "Eva" (his sister's name) without even smiling; a little girl, when asked "Where is Lottie?" it being expected that she would come out of the

adjoining room and show herself led the inquirer to the mirror and smiled at her reflection.

One should now try, by gathering together the single observations, to discover in which cases of this kind of roguishness, only the childish fancy, with delight at the result, is the only motive, and in which occurs unmistakable deceit—the pleasure in an intentional departure from the truth, and what is still worse especial pains taken to deceive, because of the desire for what is not permitted and because the untrue statements of the child are often laughed at as mere roguishness. Are fairy tales here and there responsible for such departures from the truth?

IDIOSYNCRASIES.

Does the hungry child turn away, in a decided manner, from certain foods or drinks that are either too warm or too cold? Which? What kind of "Infants' Foods" does the babe prefer? Which does it turn away from? (One should try Nestle's, Timpe's, Mellin's, etc.)

Are certain odors (eventually which) though agreeable to the adult, repugnant to the child? Does it retain these dislikes (or likes) in the third year?

CONSCIENCE.

When does the child first fear punishment? When does it first show signs of fear of making ill or worrying the mother, or of causing her pain?

When does the child do, or leave undone, something in the unmistakable expectation of praise, of a recognition of especially kind treatment, without having in mind a specially desired thing, a promised object, or some previously expressed request?

When does the child first plainly manifest that it understands wrong.—when the intention of doing better?

CONCLUDING REMARKS.

Just this word with respect to the selection here made according to the circumstances, age and capacity of the child—without extending the list of definite directions too far, there are many important questions that can only be solved after further training in such observations and further psychological study. This feature has not been expressly treated here. It would embrace, for example, those questions of a purely practical sort, concerning

the development of the sense of space and time and the evolution of such feelings as self-respect, dignity, haughtiness, jealousy, egoism, etc.

In my more comprehensive work "The Mind of the Child" will be found directions pertaining to still other psycho-genetic researches and a detailed setting forth of methods to be employed in making adequate observations of the child's learning to speak.

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THE PLAN AND PURPOSE OF THE ILLINOIS SOCIETY FOR CHILD-STUDY.

The Illinois Society for Child-Study aims at the stimulation and furtherance of scientific experiment and investigation along all lines of Child-Study, including laboratory work, at the collection and collation of the scientific data resulting from experiments, investigations and laboratory work that have been accomplished, and at the dissemination and practical recognition of those results of the work of Child-Study that offer a well established basis for reforms or progress in educational work.

Child-Study is yet in its infancy, but it has aroused a general and deep interest all over the civilized world. It is indeed a renaissance of the study of psychology. It offers the best possible means and opportunity for the investigation of a subject upon which all education should be founded. Few generalizations upon which most eminent psychologists fully agree, have yet been reached. In the nature of things, investigation will continue for many years to come without arriving at final and decided conclusions upon many points. The greatest care, therefore, is to be exercised in all experiments and observations. The members of the association will assist those directing the work in experimentation and observation, waiting with due patience for the outcome of final conclusions.

But the Society will also endeavor to bring before parents, teachers and kindergartners, for their thoughtful consideration, those results and conclusions that have been generally agreed upon. For example, the investigations as to fatigue and brain exhaustion in children are nearly ready to be published. It is also a well ascertained fact that many children are very weak in powers of attention; that there are hundreds of thousands of children in school who have defective sight and hearing; that in the common *en bloc* way of teaching, immense danger to minds is present every day in the school room; that there is an organic relation between thought and expression.

One result has been reached that is of the first importance and should receive the thoughtful attention of teachers. This result is in regard to the slow diffusion of nervous energy from the brain, spinal cord and torse. It is found that the nervous energy of the child is slowly diffused from the center outward. This is manifested by the child's spontaneous movements in broad curves. The physical energy reaches the extremities, for instance the fingers, last. If the extremities are exercised in fine work, as in writing, so-called accurate drawing, and in much of the kindergarten work, this undue exercise of the extremities re-acts upon the center and hinders the diffusion of nervous energy, thus crippling the body, and consequently, the mind. This last conclusion is a general one supported by all the prominent students of children, Dr. G. Stanley Hall, Dr. Donaldson, Dr. Bryan, and others. This startling conclusion appeals at once to every thoughtful parent and teacher, and should immediately be applied to all home and schoolroom work. (1) Finger writing, especially with little children, is utterly wrong. Slate writing is probably the worst infringement of this fundamental law. (2) The so-called accurate drawing is unnatural. (3) The fine network and other fine work of the kindergarten should be abolished.

ORGANIZATION: The organization of the Society,as may be seen by reference to the constitution, which is printed in this handbook, consists of a president and three vice-presidents, a secretary-and-treasurer, an executive committee and an advisory board.

The Executive Committee consists of experts in rational psychology, experimental and physiological psychology, hygiene, physiology, pathology and pedagogy. Each member of the Executive Committee is working in definite lines of experiment and investigation, the results of which are to be presented from time to time, for the study and direction of the members of the society. Thus the committee forms the scientific center of experimentation, investigation, direction and publication. It is to give the impulse and direction of all work immediately under the auspices of the society. It is to collect and prepare for publication the results of their own experiments, and also the results of the experiments and investigations of other students of child-nature. This committee will also receive and collate reports of

investigations from the round-tables and other members of the Society. It will make a yearly course of study and special programs of work for members and round-tables. At the end of each year, a Child-Study-Year-Book will be published for the work of the year. All publications of the society are to be stereotyped.—*Pertinent* questions and inquiries from the members of the society will be answered by the Executive Committee.

Since it is the purpose of the Society to arouse an earnest and profitable enthusiasm for the study of children in all the schools of the state, to this end it is the duty of the president and vice-presidents and secretary to use their influence that the different Teachers' Associations of the state may have discussions upon the subject of Child-Study, and Child-Study sections, in each and every one of their meetings. Supt. O. T. Bright, vice-president, will have charge of the Child-Study in the northern part of the state; Pres. John W. Cook, vice-president, in the central part of the the state; and Dr. Everest, vice-president, in the southern part. It is proposed that in all teachers' meetings Child-Study shall have a prominent place. All county associations of teachers are earnestly requested to have discussions upon this subject. The summer institutes should have at least one lecture upon this subject, if not a course of lectures.

The Northern Illinois Teachers' Association had a very profitable session at Aurora, Oct. 26th, '94, at which a large number were added to the membership of the society. The present session (Springfield, Dec., '94.) is the beginning of work in the State Association. The Illinois School Masters' Club proposes to discuss the subject at several successive meetings. Every teacher in the state should join the Society and receive its publications and the benefits of its work, and all are invited to make the investigations suggested by the Executive Committee.

The Society has already taken steps to form local Child-Study-Round-Tables in all parts of the state, and, indeed, outside of the state, for it is proposed to send the work of the society to any field in which there may be applicants for the work. Five or more members may form a Round-table, and upon petition of such five or more persons, they will receive a charter from the Society, by sending the petition to the secretary of the Society, and

enclosing two dollars for the charter, and one dollar for each person, providing the latter is not yet a member.

It is proposed that each Round-table meet at least once a month to discuss the subject represented by the executive committee, and to compare the work accomplished. A very profitable series of studies for the first meetings is offered in the transactions of the Society, Vol. 1, No. 1 already published. Dr. Krohn has translated Preyer's Register of Observations upon the development of infants from birth; it is especially desirable that similar registers be kept where feasible and presented to the different meetings of the Round-tables and to the Executive Committee.

The visitation of schools and kindergartens will be made an essential feature of the work of the Society. Directions for such visitations are published in this Hand-book. The main purpose of these visitations will be;—(1) To ascertain if hygienic laws are obeyed in the schools; if the ventilation, seating, and all that pertains to children's health, are satisfactory; if the children have proper physical exercise. (2) To see if the laws of human growth are obeyed in the teaching, i. e., if the teaching conforms to the psychology already discovered and agreed upon by most prominent authorities.

The main purpose of the Round-tables is to arouse a deep interest in the study of child-growth and education, in which nourishment, clothing, cleanliness, proper exercise, play, work, and children's defects and precocity, shall form the prominent features. Women's clubs, and all other clubs that have a moral purpose, are earnestly requested to establish Child-Study Round-tables.

Any person, either in, or outside of, the state of Illinois, may join the Illinois society for Child-Study by sending the fee of one dollar to the secretary-and-treasurer, unless the fees are being paid to the treasurer of a Round-table. Each member will receive, in return for his fee, a membership certificate and all the regular publications of the Society. Members are requested to join Round-tables, if that is feasible. But whether it is possible to join Round-tables or not, members are requested to report interesting and profitable facts they observe, making them pertinent to questions asked by the committee and so far as possible scientifically accurate.

The Executive Committee will also appoint an Advisory Board, which will consist of Professors of Rational and Experimental Psychology, Physiology, Neurology, Pathology, Teachers of Defectives, (deaf, dumb, blind, and feeble-minded,) Directors and Physicians in Insane Asylums, Physicians especially interested in children's health and diseases, Kindergartners and Teachers. It is the duty of the several members of the Advisory Board to attend the meetings of the Round-tables as often as possible, to answer questions in their several specialties in regard to diseases, defects, nourishment, and growth of children, etc. They should hold themselves ready to lecture upon any one of their special subjects before the Round-tables, and in public. The several Round-tables can nominate members of the Advisory Board, sending such nominations to the chairman of the Executive Committee.

In conclusion, the purpose of the Illinois Society for Child-Study is to *seek the law* with great honesty and perseverence, and when the law is found to apply it. The future of education lies in the close careful study of personalities, and undeviating attention to individual growth. Probably no movement in education was ever started that promised such a rich field for the good of humanity; but if success follow, infinite patience, tact and perseverance will be required. It is well to remember that there are no jumps in nature; "*Natura non facit saltum.*" The educational world is full of pedagogy derived either from tradition or from superficial, incomplete, immature investigations. It is generally conceded that the prevailing methods of teaching and treating children are full of errors; that they do not conform to the laws of child-growth.

The Illinois Society for Child-Study proposes honestly and earnestly to investigate the nature and growth of the child, and the best conditions for his growth and education.

FRANCIS W. PARKER, President.

The above is the substance of an address delivered in behalf of the Illinois Society for Child-Study before the general session of the Illinois State Teachers' Association, Dec. 27th, 1894.

SECRETARY.

CONSTITUTION OF ILLINOIS SOCIETY FOR CHILD-STUDY.

ARTICLE I. NAME.

The name of this association shall be "The Illinois Society for Child-Study."

ARTICLE II. OFFICERS.

The officers of this society shall be a President, three Vice-presidents, Secretary-and-Treasurer, an Executive Committee, and an Advisory Board.

ARTICLE III. TERM OF OFFICE.

The officers of this association shall be elected annually at the regular annual meeting of the society.

ARTICLE IV. DUTIES.

The duties of the several officers shall be such as usually devolve upon them with such additions as are hereinafter provided.

ARTICLE V. VICE-PRESIDENTS.

It shall be the special duty of the Vice-presidents to endeavor to secure discussions of topics in which this society is especially interested at the meetings of the Northern, Central and Southern State Teachers' Associations.

ARTICLE VI. SECRETARY-AND-TREASURER.

The Secretary, who shall also be Treasurer, shall attend to the printing and publication of all the matter recommended by the Executive Committee. The Secretary shall have the power to determine whether the resources of the association will permit such publication and his decision shall be final in the matter.

ARTICLE VII. THE EXECUTIVE COMMITTEE.

The Executive Committee shall consist of experts in rational, experimental and physiological psychology, pathology, child-study and pedagogy and shall include the President and Secretary-and-Treasurer of the society. It shall have charge of the general direction of the work of the society and shall have the sole power

to recommend to the secretary-and-treasurer material for publication. It shall further prepare for meetings as a department of the State Teachers' Association, meeting yearly at Christmastide, and of the Southern, Central and Northern Associations, the former meeting once a year, the latter twice, said meetings to be held regularly in a Child-Study section, supplemented when desirable by discussions in general meetings. The Executive Committee shall also appoint the Advisory Board. It shall have charge of the program and arrangements of the regular annual meeting of the Society.

Article VIII. The Advisory Board.

The Advisory Board shall represent all parts of the state and include professors of experimental psychology, neurologists, pathologists, teachers of the defectives (deaf, dumb, blind, feeble-minded), physicians interested in children's diseases, teachers and kindergartners. It shall be the duty of this Advisory Board to assist the Round-tables in discussions or by lectures, either before the Round-tables or in public.

Article IX. Purpose and Further Organization.

1. It shall be the purpose of this association to further all departments of Child-Study among the teachers and parents of the state, that they may have a better understanding of their own pupils and children.

2. To this end it shall seek to affiliate itself with the teachers' associations of the state of Illinois, viz.: The Illinois State Teachers' Association, and the Southern, Central and Northern Associations. Through these affiliations it shall endeavor to penetrate to the county and city teachers' meetings, thus making the subject of Child-Study one of general discussion with all teachers.

3. Wherever there are sufficient numbers of persons who wish to enter upon the work, local Child-Study Round-tables shall be formed. Five persons shall be sufficient to form a Round-table and upon petition they shall receive a charter from the president and secretary, together with such publications as may be necessary to direct their work. These Round-tables may be managed for the greater part by parents, especially mothers who are inter-

ested in the study of children, teachers and kindergartners coming in as auxiliaries to the discussions in the Round-tables. These Round-tables may meet once a week, fortnight, or month according to circumstances. They shall make a semi-annual report to the Executive Committee to be collated and published in a Year-book. They shall appoint as officers at least a president, vice-president and secretary, the latter to act also as treasurer and transact all matters of business touching the relations of the local Round-table to the State Association.

4. Any person interested in Child-Study may become a member of this State Society by joining one of the local Round-tables or Child-Study departments of the State Association, and paying $1 into the general treasury.

ARTICLE X. BY-LAWS FOR ILLINOIS SOCIETY FOR CHILD-STUDY.

The Society shall meet regularly once a year early in May at Champaign, Ill., the days for meeting and programs, etc., to be arranged by the Executive Committee.

1. The membership fee of this Society shall be one dollar, and the round-table charter fee, two dollars.

2. Each member of the Association shall receive a receipt for his membership fee, which shall serve as a certificate of membership,and each local Round-table a charter signed by the president and secretary.

3. Each member of the State Society shall be entitled to a copy of all regular publications of the Society which may be had upon application to the secretary through the leaders of the local Round-tables, and each chartered Round-table shall be entitled to one free copy of any irregular publication of the Society.

4. All bills against the Society shall be audited and ordered paid by the Auditing Committee, consisting of the secretary and treasurer and the president; and any officer desiring to incur expense in behalf of the Society for which he desires reimbursement shall first present a requisition to the Auditing Committee for the desired amount, specifying in itemized form so far as possible.

NOTE.—The President and Secretary-and-Treasurer constitute the Auditing Committee. All bills against the Society should be presented to this committee through the secretary.

DIRECTIONS FOR ORGANIZATION.

The attention of the members of the society is called to the constitution, printed in this hand-book, for all details of organization. Members who have not already done so are urged to form themselves into "Round-Tables" for the purpose of mutual assistance in carrying on the work. If not enough teachers or others in your neighborhood are members to form a Round-table urge others to join the society. Each round-table should have its president vice-president and secretary-and-treasurer. All business can be transacted through the latter for the members of the round-table, with the secretary-and-treasurer of the state Society. Round-tables will be numbered according to the precedence of application for a charter. This application should be made for the round-table by its secretary to the secretary of the state society. Each round-table may choose a special name to appear on the charter. Round-tables should meet at least once a month.

Members will confer a favor upon the secretary of the Society by notifying him of any change of address, or of any error in names and addresses. In case a member does not receive his publications as soon as they may fairly be expected after being printed or ordered, if he will notify the secretary, the matter will receive prompt attention.

The Society is now incorporated under the laws of the State of Illinois and all business is now transacted in the name of "THE ILLINOIS SOCIETY FOR CHILD-STUDY," and all copyrights are now held in the name of the corporation.

All questions on the organization and work of this Society will be cheerfully answered by applying to the secretary. Round-tables should remember that they are the proper ones to nominate their resident members of the advisory board, and send in same to secretary at once for action by Executive Committee.

C. C. VAN LIEW,
Secretary-and-Treasurer.

DIRECTIONS FOR UNDERTAKING THE WORK OF CHILD-STUDY.

The members of the Illinois Society for Child-Study will note that the larger part of this Hand-book is devoted to the syllabi which have been prepared as guides in the work of Child-Study. These " studies " come from those who have made a special study of this field of educational work and therefore merit the attention of all who are interested in its problems. The society cannot make a heartier recognition of the generous and helpful responses that have come to us from all over the country in reply to a call for guidance, and of the many kind and appreciative words of encouragement that have greeted our enterprise, than by devoting itself with earnestness and care to the lines of work herein set forth.

It is not intended, of course, that each member shall undertake all the lines of work herein proposed. It will be best for each one to select some one line of work, best suited to his opportunity, and to follow out that until he feels that he has accomplished something of worth and is ready for more. Then another " study" can be taken up. Before beginning any work whatever, every member should read Dr. T. L. Bolton's words in No. XVIII. p. ——. The value of the work will lie not in how broad a field we can cover, but in how thoroughly we can exhaust some one or two fields. Many, especially very busy and hard worked teachers, will think, perhaps, that they will hardly find time to undertake the work of child-study, but let us call their attention to the fact that some of these syllabi are well adapted to observation in the midst of busy every-day life. (I., II., XI.)

A glance at the following series of syllabi will show that in general there are two classes of studies represented, those that have been prepared for more immediate service to the educator, and those that have been prepared for the purpose of collecting data in great quantities as a basis for future scientific inductions

and ultimately for future pedagogical theory. Both phases of work deserve the attention of those who are in any way interested in the education of children, the first, because Child-Study can already give us timely assistance in many ways, the second because there are still many things we need to know about children and specialists in psychology and pedagogy need a great mass of facts from which to reason and which we should help to furnish. Let us then cooperate with them as much as possible.

It will be well for a part of each Round-Table, at least, to follow the same line of work, as they can thus assist one another greatly. All work should be undertaken with the utmost care as to the reliability of all facts noted; notice that many who have prepared "studies," have especially emphasized this. Seek rather to get the facts safely and accurately recorded, and while so doing aim to keep free of any tendency to interpret what you observe. Those who have prepared the syllabi, have as a rule presented that phase of work in which they have specialized and are deeply interested, and are ready and willing to enter into correspondence with anyone concerning the observations he has made; indeed, will be glad to get the data in all cases where they are needed to further the cause of science. Always keep a careful record of your observations in some systematic form such as will best serve your line of work. As soon as you have completed any line of investigations, send the data to the Secretary or Chairman of the Executive Committee, who will see to it that they are laid before the Committee for classification and interpretation.

The ideal Round-Table will contain representatives from all classes interested in the education of children. Wherever this is the case, almost any one of the subjects herein offered can be much more fruitfully and intensely pursued. For example, a Round-Table containing mothers, kindergartners, primary and intermediate teachers and, perhaps, a medical specialist or two, will be able not only to make the study of the evolution of language in children doubly interesting and profitable, but to add to the scientific data so much needed upon this subject. Such a Round-Table should always be the aim of those who unite to form one. We wish also to enlist the efforts of all those who are in any way concerned in the care and education of defectives; they can furnish much material of value both to science and education.

In connection with their investigations the Round-Tables should seek to read and discuss something from the literature related to their work. Here we may recommend the transactions of the Society and any other special work or works related to the special investigations in hand. The Transactions of the Society, Vol. I, No. I, page 72-73, and this Handbook, pages 80-86, contain bibliographies of some of the most important literature of Child-Study. The following is suggested as a program for the meetings of the Round-Tables:

I. Report of the last meeting by the Secretary.

II. Report upon and comparison of results of investigations since last meeting.

III. Report of School Visitation Committee.

IV. Discussion of one of the articles in the published transactions of the Society, or discussion of any one of the following subjects:

1. School-hygiene (see bibliographies, article by Burnham, and Syllabus No. X).

2. Evolution of language in Children (see Syllabi III and IV and accompanying bibliographies).

3. The Social Sense (See bibliographies and Syllabus I).

4. Children's Lies. (See bibliographies, Article by G. S. Hall).

5. Habit Degenerations (Syllabus II).

6. Aimless Activity in Children (Syllabus XIX).

These six topics ought to furnish ample material for the discussions of an entire year, as several meetings should be devoted to each one. They are only meant to be suggestive, however, and other subjects may be substituted, if they seem to harmonize with the work of the Round-Table better. We would suggest that some member of each Round-Table be appointed as leader of each one of these topies. It would then be the duty of the leader to thoroughly inform himself upon the subject in his care and to arrange an outline of the same for the guidance of the others. Different persons could then be appointed to report on the different phases of the subject. A topic worked up in this way would be of far greater service to those taking part in the discussion than anything the Hand-book could offer.

C. C. V. L. SEC. & TREAS.

SYLLABI OF CHILD-STUDY.

In introducing the members of the Society to the following series of Syllabi for Child-Study, we should call attention to the fact that Vol. I, No. 1, of the Transactions of the Society, contains two sets of more extended directions that will always be of service to the investigator in any line of work. They are "Suggestions on the Study of Children," by Wm. L. Bryan, and a "Translation of Preyer's Directions for Conducting a Daybook Recording the Development of the Child from Birth," by Wm. O. Krohn, both of which are designed for the investigator who desires to make a broad and thorough study of these lines of research,

E. H. Russell, Principal of the State Normal School at Worcester, Mass., in response to a call for a "study" for this Handbook, refers us to his article in the Pedagogical Seminary (Vol. II, No. 3; to be had also in separate reprint), in which, he says, he has presented the best he has for us. This article deserves special mention as it sets forth a work peculiar and unique in itself, open to all classes of observers, simple, yet replete with valuable returns to the observer. With his permission, we quote from Mr. Russell's sympathetic letter, a few sentiments that all who enter the field of Child-Study, should realize: "What we need is a vast collection of facts, to be classified and worked up by thoroughly competent psychologists who are in complete sympathy with our aims and who have an abiding faith in the value and sufficiency of the mine we are working. These facts must be gathered by continued observation of children, under all circumstances and conditions, wherever the children can be found free from restraint and self-consciousness."—"Prepossession on the one hand and constraint on the other fatally vitiate the results of observation. Again, I think that looking for particular things in children is apt to play the mischief with our observation,—indeed, this is but a form of prepossession."—"While I regard it as of great importance to enlist scientific men, particularly intelligent physicians like Dr. Francis Warner of London, in this

work, it is after all to a much more numerous class that we must look for the perfect mountain of facts that we need. We must set everybody at work on this business of collecting and recording. We must accept every contribution and look no gift horse in the mouth. Then have a number of psychologists upon whom to unload our data for classification and digestion. Although the day of deductions and generalizations seems far off, I cannot think it wise to yield to the eagerness of pedagogy and take our cake half-baked from the oven."

I. THE SOCIAL SENSE.*

All persons thrown intimately with children from about four years of age and later may serve psychologists by making detailed observations of what may be called "chumming" on the part of children and youth. By "*chumming*" is meant all instances of unusually close companionship voluntarily made, "platonic affection," personal influence one over another when this influence is limited to one person, and when the relationship is stronger than ordinary and is shown in any unusual or remarkable ways, such as bearing punishment for or with one another, moping or becoming unsocial when separated. Cases of boys chumming with boys and girls with girls are especially valuable; and of older persons of the same sex. Similar observations are needed on cases of marked or unreasonable *antipathy* of one child to another.

The object of the inquiry is to get light on the growth of the child's social sense—what it is that attracts and repels him most in others. To this end observations on the following points are especially desired. In every case of chumming or antipathy:

1. (a) Ask the child, *A*, why he loves or dislikes the child, *B*. Take down the answers in full. (b) Repeat the question once a week for six weeks at least, if the phenomenon continues.

2. (a) Observe what *A* imitates most in *B*, and (b) whether he imitates the same actions or qualities in others besides *B*. (c) Note whether what *A* imitates in *B* is more prominent in *B* than in other persons.

3. (a) Observe how far *A* shares his toys, food, pleasures, etc., with *B* more than with other children. (b) Ask him why he gives his things to *B*. (c) Observe whether this keeps up if *B* does not reciprocate.

4. (a) Observe any case in which *A* is willing to suffer for or with *B*. (b) Whether he will fight for him, or defend him with words (give details of actions or words of defense).

5. Observe whether *B* largely figures in *A*'s dreams (a) by

* In accordance with an agreement made with the author of this syllabus, the results are to be sent him for interpretation as far as the workers are willing. He is at liberty to use these results wherever he desires, and this same schedule for securing data from other sources.

C. C. V. L., Sec'y-&-Treas.

noting any speech aloud in sleep, and (b) by asking *A* frequently what he dreamed about the preceding night (being careful not to suggest *B* to him in any way).

6. State all the details of the relations between *A* and *B*, especially (a) Do they see each other oftener than they do others? (b) Do they room or sleep together? (c) Have they any common infirmity or fault (stammering, defective vision, stooping, deceitfulness, etc.)? (d) Have they ever been punished or disgraced together in school or at home? (e) Do they sit together in school? (f) Have they any common enemy, real or fancied (tyrant, teacher, school bully, etc.), whom they plan to circumvent?

7. (a) Give what is known (not mere impressions) of the disposition and state of health of each. (b) Give the length of time they have shown the liking or antipathy. (c) Have they any known hereditary nervous tendencies?

8. In case of the breaking off of the liking or antipathy, (a) Note all the facts which lead to it. (b) Question each child as to why he has ceased to like or dislike the other.

9. When the relation is mutual, make the same series of observations with the second child, *B*, as with the first, *A*, as given above.

10. Give the number of companions of each child reported on. (a) Number of brothers and sisters and their ages and place of residence with or away from the child reported on. (b) Amount of time per day which the child spends with other children in school and on the street, etc.

11. Make special note of any unusual occurrences or actions showing the affection or antipathy, not covered by this schedule.

N. B. All observations should cover as many of these enquiries as possible; yet observations of some of them only should still be sent in. *All observations should be carefully arranged under the headings of the schedule, i. e., by the numbers, letters, etc.*, in order to secure correct classification. All reports and inquiries should be addressed to the undersigned at Princeton, N. J., and should have the name and address of the sender plainly written. All names, personal details, etc., are strictly confidential, except when special consent to the contrary is given in further correspondence.

J. MARK BALDWIN, Princeton, N. J.

II. A STUDY OF HABIT-DEGENERATION.

The study of habit formation has properly occupied an important place in the history of Educational Psychology, and the results of the scientific work done in this field have been of the utmost value to educational doctrine in general. But the field is yet far from clear. Many questions of vast importance are still unanswered. Such, for example, are the problems of the relation of habit formation to heredity, and instinct. Much long continued, patient toil is needed here before we can feel sure of the difference between the truth and our present conjectures. Notwithstanding the many unsolved problems connected with the formation of habit, it will be of much help to the student of habit to look at it from another point of view, and thus get a wider view of the subject as a whole.

In the work outlined for the study herein suggested, the subject will be viewed from the degeneration side. The child comes to school with many bad habits already formed, and the teacher's problem is not only one of formation, but of reformation. Given a child with a certain bad habit, how can the teacher, with the least loss of time, and with the least interference from this bad habit, root it out and properly direct the misdirected energy?

During the past year investigations along this line have been directed and carried out, using the following method, and the results have been so helpful and encouraging to the teachers doing the work, that I offer the plan not as an experiment from which will be derived scientific answers to all the problems involved, but as a method by which teachers can get very close to the child, and thereby consciously and unconsciously get help daily in the school room:—

1. Preliminary Work.

1. Provide yourself with a note-book containing two pages for each child in your school.

2. On the first page, under the name of the child, note down

in brief but intelligible form, all its faults and defects. Or in other words, all those things in its moral, mental and physical life, you could wish were otherwise.

3. On the opposite page note the conditions under which these defects show themselves most clearly. Always note the fault when seen and then as impartially as possible note the conditions present which have in any way been causally related, or which have served as a modifying condition. That is, for example, if the child is given to fits of anger, under what conditions and circumstances his rage shows itself most violent and under the least control? Or, if an inattentive child, under what conditions does this habit wield the most influence over the child?

4. Note carefully the faults which appear under the most favorable conditions for the best behavior of the child. Such, for example, as might appear, when the child and the teacher were taking a friendly walk together; or such as might show themselves in the first days of school. In this way you will gradually be accumulating data out of which to build up the child's notion of what good behavior is. Those thought processes of the child which are inherent and habitual will break through all conditions of restraint first, and so by a careful study of the conditions and environments of the child these can be more quickly differentiated and determined.

5. What effect has fatigue on the control of the habits? Data looking toward an answer to this question can be obtained by noting the time of day when children show their faults most markedly. If they are careless, when are they most careless? If a child is given to telling falsehoods, when could you rely on him with the greatest assurance of his telling the truth, when tired or rested?

6. Can you notice any rhythm in the manifestation of faults? Does the bad boy show any rhythm in his badness? A study of the record ought to give some answer as to this question.

7. What habits are most prominent and most powerful during the various stages of the child's development? Data looking toward the solution of this problem may be obtained by a study of the habits as noted in the different grades of school work. In this way also, you will be working toward an answer to this other question:

What is the probability that teachers waste much pedagogic powder by shooting at habits which, let alone, will die of themselves? And not only this, but from the lack of knowledge of those incipient habits or instinctive reactions which are of a transitory character, may we not commit serious error by calling attention to these and thus fix them instead of correcting them.

II. Application of Means to Ends Sought.

1. After having carefully studied the child as thus outlined,—and it must be understood that such a study will require much time and thought,—the next step will consist in determining the chief weakness of the child. For determining this point, all your previous notes and records of the child become your data.

2. Having determined this, direct your pedagogic enginery accordingly. For the question will here force itself upon you;—"If this chief fault be corrected will not many of the lesser ones die of themselves?" Are they not parasitic in nature and thus will die of inanition if the source of their supply be rooted out?

3. Plan your methods for the eradication of the definite point now in mind, and as far as possible make them instructive corrections. Note carefully the effect of each effort, and especially watch the changed manner of the child's reactions.

4. Help can be derived at this point by carefully watching the ripening and decline of any of the instinctive reactions of the child. For example, just now the boys whom we are studying have developed a new game, and it has taken complete possession of their minds and energies when out of school, but it will soon pass and some other activity be substituted. We are watching for this change and are anxious to see what the sequence will be.

5. This work should all be done without the knowledge of the child and in most cases without the knowledge of the parent.

6. Put your records and results into the hands of the next teacher and in that way let the accumulated records be sifted and refined, and above all make it largely the basis for directing all your work with them.

F. B. Dresslar, State Normal School, Los Angeles, Cal.

III. CHILD-LANGUAGE.

1. Describe the cry of the child at different ages and under different circumstances. Give all sounds, vocal or otherwise, and all gestures and movements expressive 'automatic or impulsive' such, as wrinkling of the forehead, wrinkles about the eyes, movements of tongue, dropping things from the hand, clinching hands, position of arms, etc. Describe pitch, length, stress, timbre, steadiness, etc. of the different stages of the cry and especially its closing phases. Illustrate as best you can by curves, spaces, notes, or syllables.

2. Note down as fully as possible from day to day all vocal sounds, original or acquired, made by the child. Note carefully such as are made when the baby is pleased, uncomfortable, afraid, angry, etc., but do not neglect to note also all vowels, consonants, or syllables he utters as mere play and without attaching any meaning whatever to them. Whenever you are in doubt as to which of two letters to use to represent the sound, give both. Has such babble much or little intonation, emphasis or expression? Illustrate and describe it. Give any instances of sounds made in this way which the child later loses the power to pronounce. When did the child first show pleasure in music or singing? Does he make any attempt to imitate or improvise?

3. Describe the very beginning of his use of words. Give as many as possible of his earliest expressions?

4. Put down as full as possible a vocabulary of the words he uses. Do this at different times, say at intervals of 4 to 6 mos., while he is learning to speak. Always spell *phonetically* and mark vowels and accent to indicate the child's pronunciation. Add phrases illustrating the use of the words. Be particular to get as many as possible of the *original* words the child invents, and describe the circumstances of their use. Where they have several meanings give all of them, with illustrative phrases.

5. Wherever two or more little children have been together much and have formed a language of their own give as complete account of the circumstances as you can, stating whether the children are precocious or backward, imitative or originative in other ways, have good or bad memories for words, have learned their mother tongue or not, and any other facts bearing on the

subject. Give as full a vocabulary of the language as you can get, note as many of the expressions and conversations in it as you can gather. Be careful not to suggest meanings to the children. Relate how you learned their language and discovered the meanings they attached to the words. If you can account for the derivation of any of the words, please send such explanations. Reminiscent accounts of your own childhood in which such language was used, together with your experience in changing from it to English will be gratefully received.

6. Note all words made in imitation of sounds in nature, barks or cries of animals (onomatopoeic words), together with explanation of their origin.

7. Describe all gestures made by the children in expressing themselves, particularly such as they use to eke out their meager vocabulary.

8. Note all words or expressions illustrating mistakes or originalities in grammar, such as "goed" for "went," "I want she to come off of there," etc., illustrating the child's way of reasoning about declensions, inflection, order of the words, or syntax.

Always state age, sex, and nationality of the child, and describe in brief his surroundings at home. Be as accurate and detailed as you can and describe only what you have yourself seen or heard at first hand. Add any other points not mentioned above, if you choose. Do not let the child know he is being noted; because only his spontaneous doings are wanted, since self-consciousness spoils the record as much as it does the child. Put down the notes at the time of observation, or as soon after as possible.

H. T. LUKENS, Fellow Clark University, Worcester, Mass.

IV. COURSE OF STUDY ON THE EVOLUTION OF LANGUAGE IN CHILDREN.

1. Study of the mechanism of Speech.

Enunciation.

What is an elementary sound?

How is it made?

How are vowels made?

Consonants?

Articulation.

How are sounds joined together?

What is a syllable?

An oral word?

Pronunciation.

In what does pronunciation consist?

What is accent?

Conventional union of words in sentences; syntax.

What is an idiom?

2. Voice, rhythm, inflection, melody, harmony; relation of music to speech.
3. Motor centers of speech.

The physical relation of motor centers of speech to thought centers. Organs of speech.

4. The child's first attempts in making sounds: baby babblings.

Make a list of first sounds. First combination of sounds.

Make a list of the words first used. The forms of sentences first used.

5. When does a child first understand words?

What words does a child first understand?

What are the indications by which you know a child understands words?

When does speech first become intentional?

6. Evolution of the sentence.

What combinations does a child first make?

What words does a child invent?

Are any of the child's utterances onomatopoeic?

What words does a child use that are meaningless to him?

7. Evolution of the sentence (Con).

What parts of speech are first used?

Is there any order in which they are acquired?

Note the first use of verbs, nouns, adjectives, adverbs, adjective modifiers, adverbial modifiers.

Mistakes arising from analogy,—in see, "seed;" know, "knowed."

8. *Imitation.*

What in speech is acquired wholly by imitation?

What in speech is spontaneous?

Does a child ever make a mistake in emphasis?

9. *Errors in speech.*
   Mistakes in pronunciation; how are they acquired?
   Mistakes in the use of words; how acquired?
   Mistakes in syntax; how acquired?
   Keep a list of errors in syntax. How many and what errors in syntax do children make at the age of three years?
10. *Emotions.* Crying, sobbing, laughing.
   Expressions of emotions of pleasure; of pain.
   What is the relation of *interest* to learning words and sentences?
   What takes place in consciousness when a word is in the process of functioning?
   What is the function of a word? Of a sentence?
   What is the reflex action of language upon thought?
11. Should little children be taught foreign languages? Why? Why not?
12. What is the difference between ordinary speech and oral reading?
13. Learning to hear language; learning to speak; learning to read; learning to write; compare methods.
   Which is the more complex, the mechanism of speech or the mechanism of writing?
   Can a child learn to read and write by the same methods he learns to hear language and to speak?

F. W. PARKER, Cook Co. Normal School.

V. COMPARATIVE CHILD-STUDY OBSERVATIONS.

I. 1) Let *teacher* record her recollections of her school life; thus: Wide sheet of paper; on the left, column of school studies, exercises, game and plays. Rule three columns to the right, putting in first column, *I* (=*interesting*) or *D* (=*dry*); in second column, *H* (=*hard*) or *E* (=*easy*); in third column, *G* (=*good*, as shown by reports) or *P* (=*poor*, as shown by reports) or *F* (=*fair*, as shown by reports). To the right, give any explanation you may have to offer about *I* or *D*, *H* or *E*, *W* or *P*, in regard to each study. If you haven't room in rest of line, put numerals referring to footnotes, thus, (1).

2) If you choose, write at the end of your paper under the heading "comments," any personal notes, opinions of others (especially parents) about your ability, work-habits, inherited aptitudes, etc. Write very concisely in noteform, using as many paragraphs as possible. Pencil-writing not wanted.

II. Let *mothers, fathers,* and other *relatives* of the children under teacher's care, write papers about themselves described under I. Select "child-study" people, especially when there are *several* children.

III. Let *teacher* of children whose parents, etc., furnish II, write their *independent* judgments of children by use of suggestions in I. *Don't* consult Parents, etc. Put down what happens to occur to you independently of marks, etc. Nobody but specialists are to see *any* of these papers whether under I, II, III or IV. Don't question the children. This applies to all observers in *this* piece of work.

IV. Let *mothers, parents, relatives* and *friends* record their impressions of children as in III.

Note.—Let initiator of these observations select a few children, in regard to whom comparative data (I, II, III, IV) can be gathered. Let teachers and parents, etc., send papers directly to specialist or co-ordinator who has been chosen by their circle of workers. When you are uncertain, put (?). When you don't know, put (—).

THOS. P. BAILEY, JR., Asst. Prof. Pedagogy,
University of California, Berkeley, Cal.

VI. RELATION OF PHYSICAL DEVELOPMENT TO MENTAL SUPERIORITY.

The following suggestions are from Prof. George T. W. Patrick, of the chair of philosophy in the University of Iowa, who is at present prevented from making any more extended contributions to these "studies." He lays great emphasis upon the need of exactness in this work, if the results are to be of any service, whatever:

"Let 1200 children from a given grade, say 4th, 5th, or 6th, grade, be taken from schools enough to make up this number,

taking, of course, *all* in each school. Let them first be *marked* on a scale of 100 by their teachers, using their school-record in addition to the teacher's judgment, *as to their intellectual proficiency.* Then let them be *weighed* and *measured* (as to height) accurately, and their age recorded. A card should be made out for each one with his four records upon it. But their *standing* should be determined and recorded by the teacher *before* the latter knows that the children are to be weighed and measured. The results should then be compiled by an expert, keeping boys and girls separate. Some experiments of this kind have been made, but they are quite insufficient."

VII. FEARS IN CHILDHOOD AND YOUTH.

1. *Fears of celestial phenomena* as *e. g.*, of wind, storms, thunder and lightning, heavenly bodies, meteors, sky falling, cloud, mist, fog and cloud-forms; end of the world and attendant phenomena; night and darkness, eclipse, moon breaking, that the sun may not rise; pecular sky colors, northern lights, excessive heat and cold, loss of orientation and points of compass.

2. *Special inanimate objects*, as fire and conflagration; water, drowning and washing or being washed; punishment and its instruments and things and places associated with it; falling and of high places; uncanny places, as caves, ravines, gorges, forest gloom, high hills and solitude generally, and getting lost, or shut up; guns and weapons; points, sharp edges, very narrow or wide open spaces; dirt on garments or skin and contact generally; vehicles and riding.

3. *Living things*, self-moving things generally; big eyes, mouth, teeth; dog, cat, snakes, pigs, rats and mice, spiders, bugs and beetles, toads, etc.; sight of blood, robbers and burglars, strangers, society and bashfulness; fear of being laughed at, talked of or being ridiculous; shyness of opposite sex; fear of fighting; cowardice, polroonery, suspiciousness.

4. *Disease, dying*, death, loss of friends, positions, fortune, beauty

or of health generally; heart disease, cancers, fits, consumption, starvation, fear of prevalent diseases, or of those read of.

5. *Fears of the supernatural, e.g.*, ghosts, spirits, witches, fairies, dragons or mythological monsters; dream-fears; conscience fears as of having committed unpardonable sins; punishments specially incurred or sent from heaven, loss of soul and next world fears generally, fears of sin or impurity.

6. Describe any *sudden* experience you have felt or observed and whether involving only distinct surprise or being intense enough to cause real shock, start or astonishment, with details of cause, effects and their permanence; terrors, without danger or cause other than an hereditary or a traumatic or disposition to timidity.

7. In each case state order and age of fears, how long they lasted; how intense they were; what acts they prompted, and educational good or bad effects; was sleep effected? State specific symptoms, starting, pale or sweat, urinations, rigidity, croups, horripilations and "creepy crawling" feelings, nausea, weakness, fainting flight, causes, treatment and cures.

NOTE—This Syllabus is drawn up by the undersigned, like the others after much thought and wide consultation, and is sent to *you* with the respectful, but earnest, request that *you* will read it carefully item by item, and (1) Jot down at once in the easiest form of notes whatever each paragraph or phrase recalls of your own childish fears. 2. That if you are a parent you will add to this any observations this paper may suggest on your own children. It may aid you if you keep a "life book" or memoranda in any form about them. 3. That if you are a teacher, you will read this paper to your class, write it on your board, or give it to individual pupils (of upper grammar or high school grades) and ask them to write as an exercise in composition (setting apart an hour, or asking for out of school work) an account of their own early or present fears; 4. If you are a Normal school principal or teacher of psychology you may connect it with the class work in the study of feelings and emotions. 5. If you are a principal or superintendent you can assign the work to some teacher or advanced pupil to collect the data. All

returns may be anonymous if preferred, but the age, sex, and nationality must be stated in every case.

Returns may be sent to the undersigned, or if preferred may be studied by you and will make the best of material for a lesson in psychology, for a discussion in a meeting of teachers or mothers, or an address or an article for the press.

When you are entirely done with the material thus gathered and used, kindly send it to the undersigned, who proposes to co-ordinate it with other material and the more special and technical literature in the field of psychophysiology, anthropology or pathology. For all valuable data thus sent, the undersigned expresses thanks herewith in advance and will give full credit. The above applies to all syllabi of this series past and future. All are formulated, printed and sent gratuitously to a very carefully selected list of those to whom it is thought they may be especially suggestive, instructive and practically helpful toward a better knowledge of childhood and better methods of education, along these lines of carefully devised, scientific investigations. Every item of the method above suggested has been found practicable, and has produced valuable material for previous syllabi in this series both in this country and in Great Britain, where they are being republished by the educational press with the best results. The preparation of such records is most of all valuable to those making them and affords practical teachers the best of all insights into individual pupils and the methods of education. This is the unanimous testimony. As there is no way of defraying expenses of printing, postage, clerical work, etc., these Syllabi must soon be discontinued to those who do not make or express a hope of attempting to make some returns. (This applies only, of course, to the syllabi published and distributed directly by Dr. Hall himself. The above syllabus appears as number VIII. in Dr. Hall's own series. Sec.) This method of research is possible only by co-operation. Will you co-operate?

G. STANLEY HALL, Editor of the *Pedagogical Seminary.*
Worcester, Mass., Feb. 1895.

VIII. SCIENTIFIC CHILD-STUDY.

The old guesswork psychology, which was the product of the armchair, has given way to the new, or scientific, psychology, in which every statement is the result of careful digging in the laboratory. Nothing is accepted as an incontestable fact unless it can be undeniably supported by the most careful measurements.

Believing that such a scientific treatment is possible in some of the departments of child-study, I had one of my pupils take up the problem of the mental development of school-children according to the methods of the new psychology. The work was successfully and ably carried out by Dr. J. Allen Gilbert, whose thesis, "*Researches on the Mental and Physical Development of School-Children,*" has been published in Vol. II. of STUDIES FROM THE YALE PSYCHOLOGICAL LABORATORY. The results are so valuable from an educational standpoint that a summary is given here. The experiments were made on the public school children of NEW HAVEN. The results are the averages for about 100 children of each age.

1. How accurately can you judge differences between weights when lifted by the hand? Or how large must the difference between two of them be, if you are to notice it?

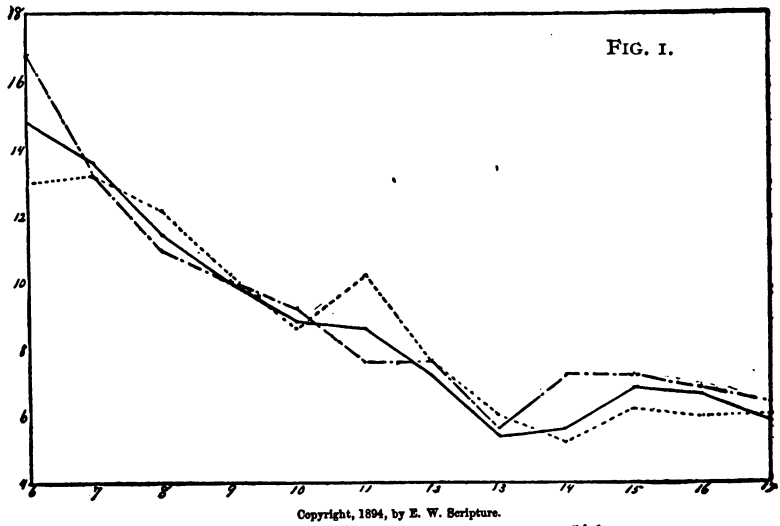

FIG. 1.

Copyright, 1894, by E. W. Scripture.

———Boys and girls, ———Boys, - - - - -Girls.

The results are given in Fig. 1. The figures along the bottom indicate the age, those at the left indicate the number of grams for the difference which was just noticeable at each age. A steady decrease of this difference, *i. e.* a steady increase of accuracy of judgment, is indicated for advancing age.

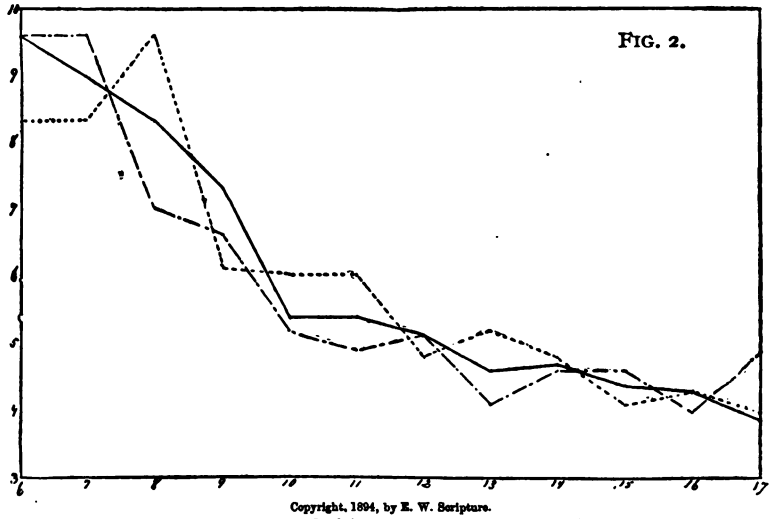

FIG. 2.

Copyright, 1894, by E. W. Scripture.

———Boys and girls, ———Boys, - - - - -Girls.

2. How accurately can a child distinguish between shades of color? Ten colors, almost alike, were shown to each child. The average number of colors considered to be the same is indicated by the numbers on the left in Fig. 2. There is a steady gain with age; the difference between the sexes is not sufficient to need notice.

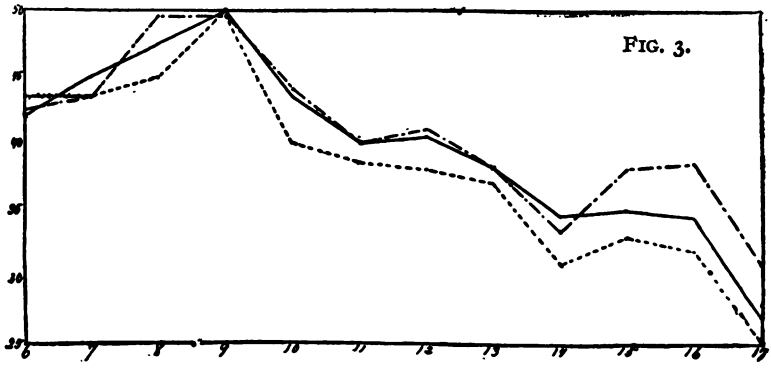

FIG. 3.

Copyright, 1894, by E. W. Scripture.

———Boys and girls, ———Boys, - - - - -Girls.

3. How susceptible to suggestion are the children? By means of specially devised blocks, the influence of the suggestion by the size of the object, as seen, on its weight when estimated by lifting, was measured with results as in Fig. 3. The figures on the left indicate the average number of grams error caused by difference in size.

4. How rapidly can a child act? Let him tap on an electric button for five seconds. The average results are given in Fig. 4. The figures on the left indicate the number of taps. Note the larger number of taps made by the boys.

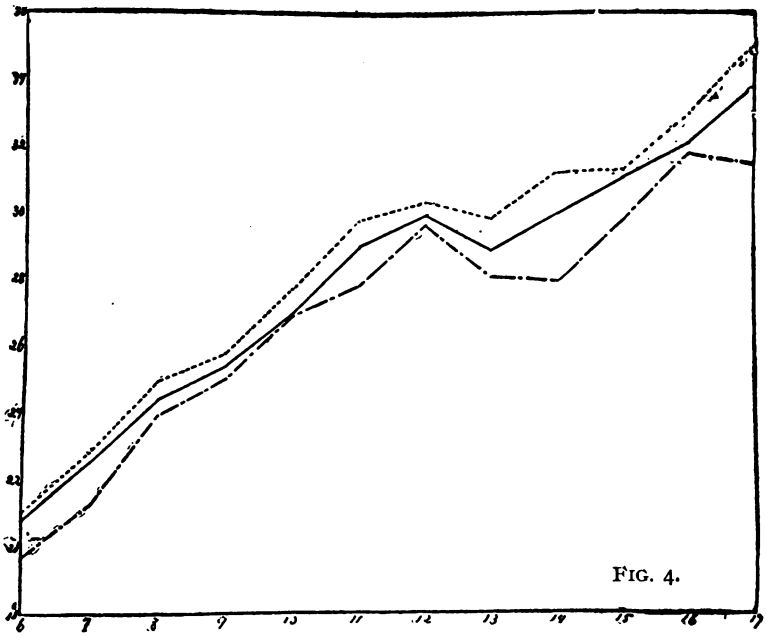

FIG. 4.

Copyright, 1894, by E. W. Scripture.

———Boys and girls, ————Boys, - - - - -Girls.

5. How about fatigue? Let the child continue the tapping for forty five seconds and compare the number of taps for the last 5 sec. with that for the first 5 sec. The percentage of the loss will indicate the amount of the fatigue. This percentage is shown on the left in Fig. 5.

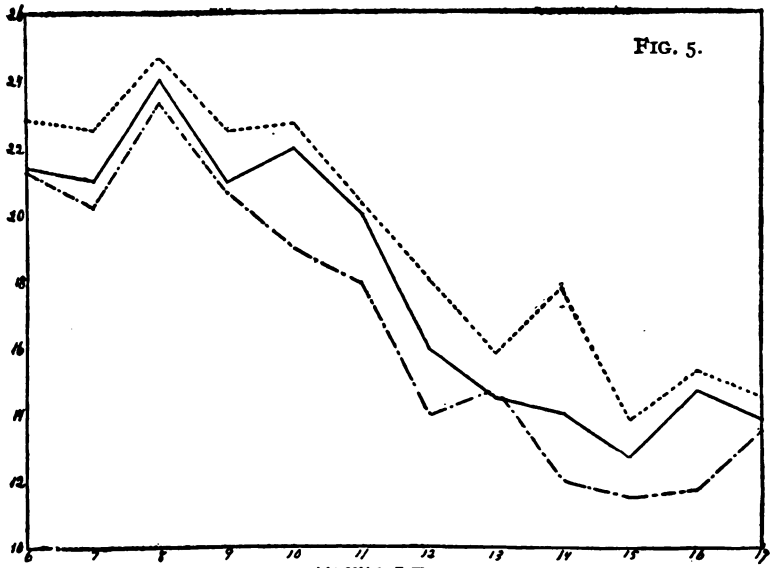

FIG. 5.

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———Boys and girls, ————Boys, - - - - -Girls.

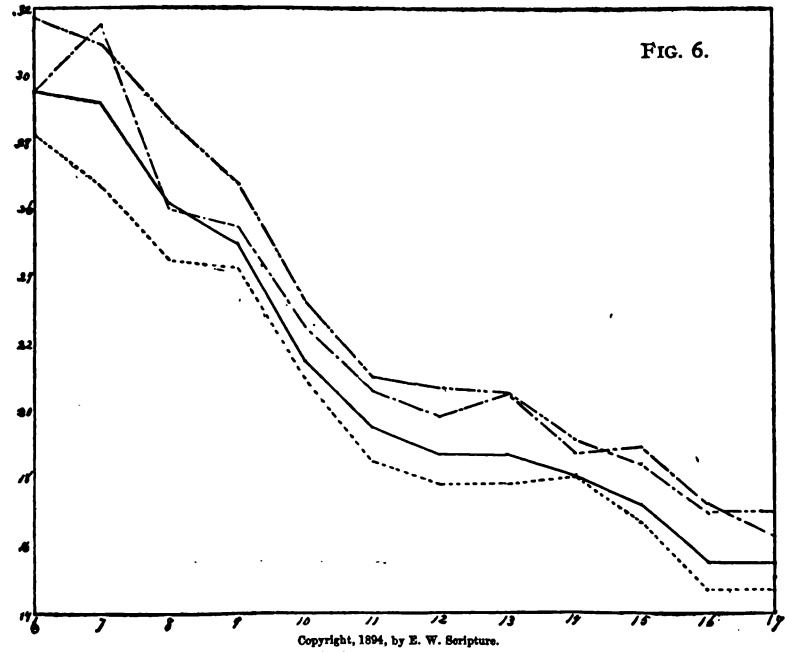

FIG. 6.

Copyright, 1894, by E. W. Scripture.

———Boys and girls, ————Boys, - - - - -Girls,
-·-·-·-Boys and girls arithmetical average.

6. The quickness of reaction to a signal is a most characteristic quality of every person. The average number of hundredths of a second for simple reaction at each age is shown in Fig. 6.

7. The time of thought is another valuable quantity. The number of hundredths of a second required for a reaction plus the two mental processes of discrimination and choice is given for each age in Fig. 7.

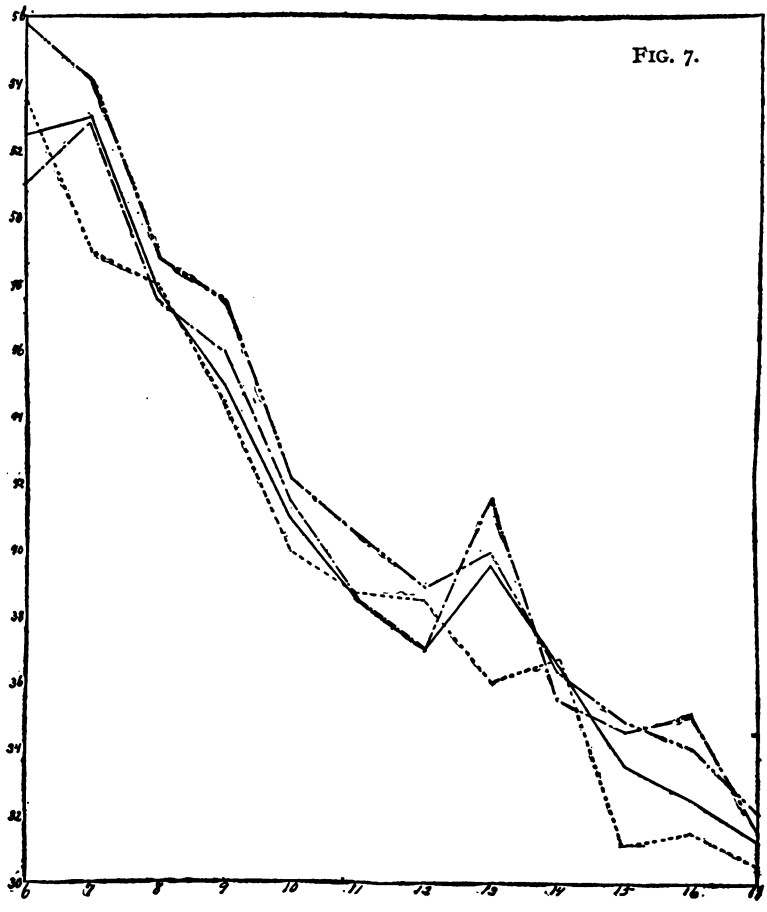

FIG. 7.

Copyright, 1894, by E. W. Scripture.

———Boys and girls, ———Boys, – – – –Girls, – · – · –Arithmetical averages.

8. The accuracy in remembering the length of tone was used as a memory test. The number of hundredths of a second by which a tone two seconds long was made too short is given for each age in Fig. 8.

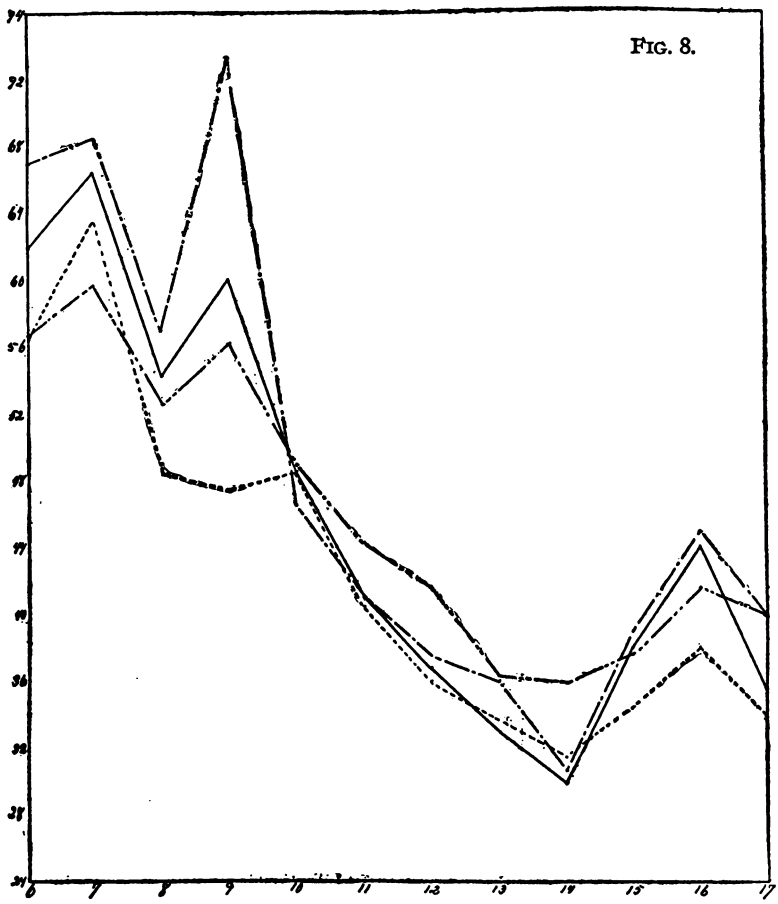

FIG. 8.

Copyright, 1894, by E. W. Scripture.

———Boys and girls, ———Boys, – – – – –Girls, – – – – – –Arithmetical averages.

This account is necessarily brief. It suffices, however to show that child-study can be carried on scientifically, that the mental processes of children in masses can be measured. For the details for the various bodily measurements and for various conclusions I must refer to the extended account in my STUDIES.

E. W. SCRIPTURE, Yale University.

IX. PHYSICAL CHARACTERISTICS OF CHILDREN.

If the teacher be familiar with the general characteristics of child nature, (and she should get this information from her psychology before she begins teaching), she will want to get data upon two distinct points in the study of any child in her class-room: she will want to account, first, for his ability to appropriate the subject-matter upon which he is being disciplined; and second, for his disposition, his conduct, whether this be commendable or otherwise.

If in making this study she can resolve the child's individuality into its elements, and can examine the character and influence of each, then the way will be comparatively simple, if it can be done at all, for her to affect the child in any desired way by dealing with the essential factors. This sounds simple and straight-forward enough: but any one who has had experience knows that the difficultly comes in getting at the different elements that have contributed or are contributing to make up the child's individuality. But it is certainly possible to examine the larger factors; and one of the most important of these in determining the intellectual and emotional activity of the child will be his *physical condition.* Most of us know already that certain physical traits and conditions accompany certain mental and emotional characteristics, but we are apt to overlook these, or at least not assign them their full value in accounting for the child's individuality. There are probably some physical conditions, however, which most teachers have not considered in the study of their children, but which are of very great worth in indicating what the child can do. If the bright child be compared with the dull one, the well-behaved with the unrestrained or vicious, the influence and significence of such conditions will soon be appreciated, if not already understood. Teachers who do not believe in or have never thought about the influence of the physical over the mental and emotional nature will be much benefited by reading the reports of some reformatory institution, like that at Elmira, N. Y. or St. Cloud, Minn. The teacher should then observe whether:

A. Nature has endowed the child with a body capable of and favoring intellectual and moral development. Notice:

1. Form, size, and carriage of head; height and breadth of forehead; shape of nose, mouth, and jaw. (Refer to some good book on Psychology where the general subject of the relation of mind and body is quite fully discussed.)

2. Expression of face; bright, amiable, sober, deceitful, or vicious.

3. Shoulders; carried erect or stooping.

4. Chest; expanded or contracted with full or imperfect breathing.

5. Arms, legs, hands, and feet; whether abnormal in any way, or requiring self-consciousness in their management.

6. General bodily appearance; whether stiff and awkward, or graceful and pleasing.

B. The child's attitudes and habits are such as favor good mental and emotional activity. Notice whether:

1. He sits and walks erect with the chest prominent, or whether other parts of the body lead.

2. His movements are vigorous or languid, controlled or nervous.

3. He can take and keep a restful position.

(a) Ask him to sit perfectly still for one minute, and notice if there be involuntary movements.

(b) Ask him to walk backward with his eyes closed, and see if he can do it without awkwardness or falling.

(c) Ask him to thread a needle, and notice if he can readily apply himself to such fine work.

(d) Ask him to stand perfectly still with the heels together for one minute, and notice if there is swaying or other involuntary movement of the body.

4. He is observant or negligent of hygienic rules. Try to find out:

(a) If he eats the right amount of good, wholesome food.

(b) Wears good, suitable clothing of the right size, warmth, etc.

(c) Indulges in any form of dissipation, as the use of alcohol, tobacco, etc.

(d) Gets enough wholesome out-door exercise.

(e) If he suffers from chronic pains or diseases that draw his thoughts in upon himself, and cause him to be restless and irritable

C. Observe whether his senses are keen and loyal. It will be impossible for the child to reach the highest development attainable by him unless each of the senses reports accurate and discriminating information concerning things in his environment and with which he comes in contact. Many seem dull and gloomy because they cannot appreciate the beautiful things of nature that are attained only through perfect sight, hearing, and touch. According to the amount and kind of stimulus which the senses are capable of receiving and transmitting, so in great measure will be the mind and character of the child. Therefore, notice especially whether:

1. He suffers from any defect of vision, especially from myopia, hypermetropia or astigmatism, (these defects can be detected very easily by the use of a test card which can be obtained of Queen & Co., Philadelphia, for a mere trifle). Can he distinguish colors accurately?

2. He can hear well. (For test, close eyes and hold watch at about five feet from each ear. The ear not being tested should be closed. The distance of holding the watch will depend somewhat upon the loudness of the watch itself and of the quietness of the room where the test is made. Oftentimes a pupil will be found who can hear very well through one ear but not at all through the other). Can he distinguish very slight differences in pitch? Distinguish sounds of iron, copper, lead, silver, tin, or wood when struck? Distinguish tones of familiar musical instruments? Can he appreciate melody and harmony in sound?

3. He has accurate and discriminating touch. Can he distinguish familiar objects, as the different kinds of clothing, minerals, fruits, etc., by touch? Can he distinguish slight differences of weight and temperature?

4. He can breathe freely through the nostrils. (It is of frequent occurrence that a child cannot think quickly or accurately when the nostrils are closed from catarrh or other cause. Observe again whether:

D. The general influence of heredity seems to be beneficial or otherwise. Does the child resemble either parent in certain physical characteristics? Is it in the shape and size of the head, the form of the features, or in the characteristic attitudes

and movements of the body? Does the expression of the face resemble that of either parent or any member of the family? Can you detect any prominent characteristics that all members of the family seem to possess? Are there tendencies toward disease or ailment of any kind that seem to exist in the family? Physical likeness is quite often an indication of mental and emonal likeness. The teacher may find it difficult, however, to determine whether certain things in the child's individuality have been inherited, or are the result of imitation of those with whom he has associated, particularly the members of his own family. She should appreciate the great influence that environment has upon the child, and it is therefore important that she try to discover not only what he has brought with him from past generations, but—

E. What he is continually imbibing from those around him through his marked tendency to imitation. However, some pupils seem much more ready than others in copying the actions, words, facial expression, dress, etc., of those with whom they are associated. The teacher should endeavor to ascertain whether the child under examination has heroes and heroines whom he quotes and copies; and if so, what is the character of those who most influence him? Try to discover whether peculiar manners and forms of expression that he has have come from the things that he has seen at home or from his playmates; or whether they seem to be original with him. Does his originality make him a leader, or is it his physical prowess over his playmates? M. V. O'SHEA, State Normal Sc., Mankato, Minn.

"The above is taken from a complete set of 'Suggestions to Teachers for The Observation and Study of Children,' which Prof. O'Shea has prepared, and which embraces directions along the lines of the child's emotional, intellectual and volitional nature; and also quite complete suggestions for finding out why pupils fail in the different studies of the school room. The work as prepared by Prof. O'Shea is unusually well adapted to the purposes of the practical teacher and student of pedagogy. The entire set of suggestions are soon to be published and will merit the attention of all our members." C. C. V. L. Sec.

X. SUGGESTIONS FOR SCHOOL VISITATION.

SANITATION AND HYGIENE:

Pure air. Is the bad air continually carried out? Is a full supply of good air coming in?

Warmth. Is the room kept at normal warmth, 68°? In ventilating the room through open windows, do currents of cold air strike the bodies of the pupils?

Desks. Are the desks constructed for the ease and comfort of the pupils?

Positions of pupils in desks. Do the pupils assume positions that tend to deformity of their bodies? Are their chests contracted in study? Do the feet of all pupils rest upon the floor? Do pupils assume good standing positions? Are their muscles constrained either in sitting or standing? Are the pupils happy? What kind and how much physical training do they have? Who gives the physical training? Do the pupils appear to be healthy? Do they have recess? What play do they have in recesses? How do pupils treat each other when not under the eyes of their teachers?

TEACHING AND TRAINING:

Do the pupils have plenty of educative work? Do they enjoy their work?

What motive incites them to work?

(a) Fear of punishment?
(b) Gaining of merits, rewards or marks?
(c) Sympathy for the teacher?
(d) Genuine love for the work they do?
(e) Desire to help others?

How much mere form-work, unrelated to intrinsic thought, is done?

What proportion of the time is given to merely formal studies?

Is the form-work and thought-evolution correlated?

How much time is lost by inattention and disorder?

To what extent do the pupils govern themselves?

How do they receive visitors?

Do pupils love to read orally? And how do they show it?

How are pupils promoted?

How are they marked, if at all?

TEACHER:

PERSONAL APPEARANCE.

(a) Dress. (b) Manner. (c) Voice.
(d) Bearing. (e) Health. (f) Cheerfulness.

MOTIVE. What motive controls the teacher?

(a) Knowledge. (b) Preparation for examination.
(c) Following course of study, and the rules and direction of supervision.
(d) Genuine good of pupils.
(e) Development of physical, mental and moral power,—character.

How much does the teacher study individual character?

How much does she adapt her work to personal needs?

Does the teacher *show off* the best things in the school?

Does she call exclusively upon the brightest pupils to recite?

Does the teacher appear chagrined if pupils fail?

Does she apologize for the appearance of the room and the acts of pupils?

Does the teacher stop to chat with visitors? *

Does the teacher show by her work that she is a student of the science of education and the art of teaching?

SUPERVISION:

By whom is the school supervised?

Does the supervision directly aid the teacher in the study of the science of education and the art of teaching?

How does the supervision aid the teacher?

Are teachers' meetings regularly held?

Is the supervisor a close student of education?

Are his methods fixed?

Does the supervisor restrain the teacher from studying personality and supplying the needs of individual growth?

Does the supervisor give model lessons to pupils for the benefit of the teacher?

CONCLUSION:

What is the best thing about the school? The worst?

Would you like to have your own child under this teacher? Why? Why not?

*NOTE.—Do not talk with teachers during work-hours

FRANCIS W. PARKER, Cook Co. Normal School, Englewood, Ill.

XI. IMITATION OF TEACHER BY PUPIL.

DRESS—Style, color, richness, fastidiousness, neatness, slovenliness.

VOICE—Rate, quality, force, pitch; Is the "teacher's twang" imitated? Characteristic laugh, stuttering, coughing, "aheming?"

LANGUAGE—Special vocabulary, exclamations and bywords, favorite quotations, peculiar style, extreme precision, correctness, inelegance, simplicity, pedantry.

FACE—Involuntary twitching, spasms or winking, jaw-grinding, frowning, squinting, grinning, sneering, strabismus, joyousness, gloom, mobility.

UPPER EXTREMITIES—Twitching of hands, arms or shoulders, restlessness, characteristic gestures.

LOWER EXTREMITIES—Mode of standing, mode of walking, rate, restlessness.

POSE, of head, of body; whether firm, loose, or indecisive.

MENTAL AND MORAL TRAITS—Precision, persistence, enthusiasm, interest, candor, disposition to flatter or deride, modesty, patience, firmness, courage, sympathy, reverence, antagonistic spirit in discussion; Is the teacher a convention-breaker? Jealousy, hypochondria, noisiness, quietness, system in school-room, cleanliness, sociability, devoutness, consistency of teaching with outside life, etc.

The above are suggested ways in which children *may* imitate their teacher. There are of course other ways. Describe the point imitated in whatever words seem best. Report only cases that come within your personal knowledge. Be as accurate in statement as if you were testifying in court. Date the records as you make them. Give pseudonym, approximate age, sex, and other information that seems to affect the case.

If you can give some time to the matter choose by lot one ward-school, or one room for special study. Make as complete a study as you are able, recording all cases noticed, and find if possible the relative number of children influenced in a noticeable degree, by imitation of the teacher.

If you have no time to do any of the work above suggested,

will you give your opinion as a school-man on the practical question involved? Scholarship, Professional Training, Imitable Characteristics such as those suggested;—What is the relative importance of the last in selecting teachers?

W. L. BRYAN.
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Indiana University.

XII. A PLAN FOR EXPERIMENTS ON THE COLOR SENSITIVENESS OF CHILDREN.

I. APPARATUS:—The experiments can be made with one of Milton Bradley's color-disk machines, by arranging it with graduated attachment for changing the tint or shade while in motion. Each space on the scale should correspond to a degree of the white or black disk that is exposed in forming the tint or shade. The plan is the same as that used by J. A. Gilbert in the Yale Laboratory for testing sound sensitiveness. (See "Studies from Yale Laboratory." E. W. Scripture, New Haven, Conn: 1892-3.)

II. PROBLEMS:—Among the problems to be solved are the following:

1. Does the sensitiveness vary with different colors for the same person?
2. Is the sensitiveness greater in the shades or tints? In very deep or very light shades?
3. Relation to periods of development, as compared with that of sound. (Compare J. A. Gilbert's conclusions.)
4. Does the exercise improve the sensitiveness?
5. What differences, if any, in accuracy when the adjustments are made by the experimenter and by the subject?
6. Do the sexes differ in color sensitiveness?
7. Variations in city and country children.
8. Color memory.

No plea for interest in this department of experimentation is necessary. The almost omnipresence of unappreciated color of nature and art, and of men's and women's horrifying selections

and groupings of colors is plea enough. Scientific interest can do much to arouse popular interest in this most subtle and powerful means and avenue of esthetic and moral soul-culture. Experiments on this plan may also be expected to give additional evidence on the various subjects of fatigue and adolescence.

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XIII. PEDAGOGICAL VIEW-POINTS IN CHILD-STUDY.

This article, as the headline indicates, is strictly limited to the point of view of pedagogy. It excludes the consideration of physiological psychology. The educator, whether parent or teacher, deals immediately with mind. To the extent that this strictly pedagogic action is successful, education succeeds. The main point of view, therefore, in pedagogic child-study, to which every detailed inquiry must be subordinated, is: How does this inquiry help me to deal mind to mind with the child?

The old pyschology is for this purpose worse than useless, because it is misleading. It never had any value except that of a crude, unscientific classification which stated in text-books over again, under the name of faculties, the empirical grouping of mental activities which from the use of common language the reader knew already. It was utterly barren itself and the cause of no end of mistaken educational practices, some of which are not yet extinct.

The first, though purely negative, condition of success in pedagogic child-study, whether undertaken by a mother or a teacher, is to get rid and to keep rid of this old psychology. To keep rid of it is not very easy. We are all convinced of the truth of the Copernican theory. But we all talk of the sun's rising and setting as if we still believed in the old, false astronomy which made the sun go around the earth. In pedagogical psychology, though one may have rid himself for once of the old idea of faculties, one is similarly compelled to talk of a child's memory, reasoning, and imagination. In astronomy we do not allow the inherited false language to influence our acquired correct think-

ing. In pedagogical psychology, this is more difficult. In the main, therefore, we shall confine ourselves to explaining the cardinal principle in Herbartian psychology. This guiding principle, at least, must be kept constantly in mind in pedagogic child-study. Without it, success is impossible.

Introspection and the interpretation of the minds of others detects nothing in mind but presentations in an infinite multiplicity of complications. What these presentations are in themselves we do not know any more than we can define life in biology. In both cases we only know that we are observing certain forces. In applying biological knowledge to agriculture, we redistribute this balance of biological forces. Frequently we introduce new factors into the farm under our cultivation. In the application of Herbartian psychology to pedagogy, we endeavor to redistribute the balance of those soul-forces which we term presentations and we frequently introduce a new factor—a new presentation—into the child-mind under our cultivation.

Forces act and react upon each other. One presentation or group of presentations when reacted upon by another may cause grave moral danger or intense mental agony, as in temptation or remorse. But note, temptation and remorse are not "faculties." They are states of strain between powerful apperception-masses. Neither is conscience a "faculty." It is also a complex of apperception-masses. There is such a thing as conscience-building. It is for you to introduce the proper presentations, where lacking, and to bring them constructively together when present.

Desire is checked and resurgent apperception; knowledge, an unchecked and clear apperception of a presentation-mass; and so on through the list. Memory, for example, is not a "faculty." It is an exceedingly crude, collective name applied to a vast variety of mental states. Local memory, for instance, and musical memory, and word memory are designations for extremely complicated and ever changeful apperception series. It is always a question of supplying or eliminating links in the series and of constructively unifying the series; if necessary, by joining it with other apperception-masses. For as the psychic forces which we term presentations may conflict with or check each other, they may, of course, aid each other.

It will be seen that only under the new psychology is indivi-

dualistic treatment possible. The question in pedagogic child-study is: What presentations has this child, and how is apperceptive construction going on among them? All the rest are sub-questions.

For the further study of this interesting question, I should recommend to beginners Lindner's Empirical Psychology as an easy, brief, and valuable work.

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XIV. THE STUDY OF THE CHILD ON ENTERING SCHOOL.

It is difficult to understand how the teacher can undertake the instruction and guidance of little children upon entering the Kindergarten or Primary School and hope to do justice to her sacred trust and obligations without making some systematic effort to get into sympathetic and close accord with the individuals before her. To approach them merely as a mass or to approach each one as merely typifying certain traits common to all, is too apt to benumb the faculties and check the distinctive development each has hitherto uninterruptedly enjoyed. If there is any time in the child's school life when he is quite unfit for purely *en masse* treatment, it is when he is leaving home for the first time to enter school, when he is about to add to the experiences of home relations those drawn from the relations of a larger community. What he is in common with other children is of course the condition of any social intercourse or class treatment in school whatever. What he is, however, as the result of his peculiar development and environment, must be the prime condition of the success of any educational measure whatsoever in furthering his best development.

In the past the thoughtful teacher has always arrived at such knowledge of the distinctive traits of the individual pupil, but always more or less meagerly, at the expense of more or less gross error on the part of the teacher and pain to the child, and often too late to be of service at the most urgent moment, viz., when the child is getting his first impressions of school and its activi-

ties. Let us grant then, without further argument, that we need to make some systematic effort to know the child as an individual before hastening him off for a cold plunge into the mysteries of learning, and inquire into the means available for that purpose. Two methods, which it is our purpose to suggest here, may be employed: 1.) The analysis of the child's mental contents by the teacher, as a means of getting at some idea of the extent and character of his ideas, and through these of learning something as to his thought capacity, and 2) Questions to parents, intended to throw light upon the physical and emotional nature of the child and to draw the teacher's attention to certain habits of thought and action already established in the child. Each of these methods has its difficulties, which have given rise to attacks and objections, and which necessarily condition the value of their results. We shall have opportunity to notice both difficulties and objections in our following suggestions. The first to emphasize the pedagogical value of the analysis of the contents of children's minds (since, so widely tested) was Director Hartmann of Annaberg, Ger., and the first to make a successful and systematic attempt to put detailed questions to parents for purely pedagogic purposes was Conrad Schubert at Jena, Ger. I am indebted to both of these authorities for many hints as to the general principles underlying the use of these methods.

1. Analysis of the Child's Circle of Thought.

Place the names of your pupils just entering school, at the left of the double page of a large notebook; leave the rest of this page, and all of the opposite, blank for the results of your analysis, except at the top where there should be written a list of ideas to be selected as directed further on. Rule both vertically and horizontally, leaving plenty of space for remarks; indicate the results of your questionings by appropriate signs for "yes," "no," and "doubtful."

Prepare a special list of things about which you wish to question the child, say one hundred in all, making your selection typical of the child's environment. Let it include names of animals, both domestic and wild, familiar in the child's home; names of birds and of water animals; names of familiar plants, trees, etc.;

names of the commonest daily astronomical and meteorological phenomena (sunset and sunrise, phases of the moon, thunder, clouds, &c.); names of the commonest human institutions in the neighborhood (as some particular church, notable building, neighboring town or village, etc.); names of common trades to be found in the child's home, including the names of the acts concerned in the same; names of certain prominent geographical features of the child's home (wood, brook, valley, hill, etc.); names applied to *scenes*, or objects as they are known in groups; names of common ceremonies, celebrations, etc. (wedding, funeral, Christmas, Thanksgiving, Fourth of July, birthday, christening, etc.).

Make this list in every way distinctive of the natural and social environment of the child and let it include good representatives of every concrete line of sense-objects and sense-phenomena. Ask them further if they have ever taken a trip, either on the cars or in a wagon and where; ask each one to select certain common forms (circle, square, half-moon, triangle, etc.) from a number of forms before them; ask them to pick out the colors, naming only the commonest, from colored objects before them; ask them to repeat some prayer, sing a song, say some verse, count as far as they can; tell them a short story and ask them to repeat it. Note how many numbers can be correctly recognized with objects. In each case note and record carefully the success of each final response the child makes. The above will, in brief, suffice to suggest how the list should be prepared for the work.

Take time; never tire a child out by keeping at this work more than two or three minutes at a time. Take each child entirely by himself, while the others are playing where you or some one else can watch them, and be sure you have his confidence before beginning. Make your questions always concrete and specific without suggesting the answer. Remember that several questions will be needed often to make sure that the child really has or has not the idea you are after. Objects that act may be more familiar when referred to in their accustomed actions (the flying bird, or the blacksmith hammering); question often in this way. Use terms and language familiar to the child. If the child's answer does not ultimately reveal something characteristic of the thing questioned about, the result should be recorded as at least doubtful. In most cases you will find that

your results are not far from right; whenever possible, let later observations during instruction correct any inaccuracies. A little time set aside each day will carry the work through in two or three weeks with a moderate sized class. When complete, summarize your results and see in how far they will affect your treatment of each pupil, your method of instruction and the selection of your subject-matter and text-book. (Comp. "The Contents of Children's Minds," by G. Stanley Hall).

It is quite true that complete reliance cannot be placed upon your answers in every case, for the child will know that he is being questioned and may unconsciously be tempted to manufacture or enlarge upon his experiences, and his power of expression never quite equals his power of conception or intensity of feeling; but the tact of the teacher will guard against any evil and her sympathy will help to overcome the child's retirement. Most children rightly approached, will respond honestly and satisfactorily. Such a familiar and confidential conversation (as it should seem to the child) cannot fail to put the teacher into more sympathetic touch with each pupil. Not alone the answers sought are the outcome, but those unconscious spontaneous and unexpected expressions on the part of the child, all of which should be noted, are equally valuable. The results are much more satisfactory when the objects asked about are grouped, so that the child is less conscious of being questioned and freer to reflect and talk. Quaint idea, fancy, emotion, habit, language power and language idiosyncracies, falsehoods, improbable stories, remarkable reasonings and explanation of things, are all data that may be gathered from careful and patient pursuance of this work. Do not fail to note them.

2. QUESTIONS TO PARENTS.

The "analysis of the child's circle of thought" has its limitations; there are certain things which it can do for the teacher and others which it cannot do. It fails to reveal anything reliable concerning the child's emotional and volitional character. It seems almost inconceivable, however, that the parent, who has known the child intimately for from three or four to six years before it receives any instruction elsewhere than in the home, should not long since have been called upon regularly and sys-

tematically to furnish certain data concerning the development of the child, that would be of the greatest value to the teacher and that no one else but the parent could furnish. Here of course, lies a double difficulty; many parents would not do it, while many who would, could not always be relied upon for entirely trustworthy answers. But let us remember that these difficulties are the same that stand in the way of successful work in this whole field. Child-study throughout must have faith in the average integrity of humanity and push on to educate it to its duties. Experience has shown that parents can furnish much valuable information along the following lines, if once convinced of the need. Try to get careful answers to the following questions:

Bodily Development. Did the child learn to walk and to talk early or late? (Have age given. Both questions are important, too, for the mental development, since the latter is so largely conditioned by the character of the child's physical possession of the world). What sicknesses has the child passed through? Are any traces of these illnesses still apparent (defects of sight, hearing, etc., or any nervous difficulty?) Does the child like to sleep long? Does it ever talk in its sleep? Often? Does it like to eat almost anything, including wholesome food, or is it dainty in its choice? Is the child's general health good, as regards powers of endurance, appetite, play, etc.?

Mental Development. Has the child been out of doors much (including walks, rides, sight seeing, etc.,) and if so, where? Has it made any journeys? Where? Does it ask many questions, —is it especially inquisitive? Has it as yet experienced any important or unusual events (death, accident, fire, wedding, etc.?) To what extent does it display ingenuity and fancy at play? Give two or three instances. Who has thus far had the chief care of the child? Any one besides the mother? Age of these persons? From whom did it learn its mother tongue chiefly? Has the child had many companions? Has it had to amuse itself largely? Character of the companions? Has the child been much in the company of adults, especially in large gatherings? What are its favorite occupations, plays, toys, fancies, etc.? Who are its favorite companions? To what extent does the

child observe or notice things and what classes of objects does it note most? Has it learned any verses or songs? Did it learn them readily or but slowly?

Emotional Development. Is the child naturally gay or more subdued in its feelings? Does it get along well with its brothers, sisters and playmates, or does it like to tease? Is it generous? How does it habitually treat animals, kindly or otherwise? Does it ever show a hasty temper? Does it cry easily? Does it always speak the truth? Is it changeable in its moods? Is the child tender and loving? Does it like to show its love? How? Does it show frequent fears? Of what? Is it fond of color or beautiful pictures? Is the child easily embarrassed? Does it blush easily? Has it ever been punished bodily?

Will Development. Does the child obey readily, or does it need several admonitions? Has it any special habits or tricks? Does the child like to be occupied? Is it persistent in carrying out its affairs when once undertaken? Is it skillful in undertaking practical occupations, such as dressing itself, or in performing any home duty? How long does it persist in any one form of play or occupation? Is it careful of its property and orderly in the care of the same? Has it yet any fancy as to what it will become when it grows up? Has it ever tried to make a collection of anything (buttons, stamps, stones), and if so, of what? Does it decide upon a course of action readily or does it rather hesitate? Is it right or left handed?

If you watch the answers and the one giving them, you will be able to see how reliable they are. Experience has shown that much valuable material will come to light.

C. C. Van Liew, Normal, Illinois.

XV. SCHEDULE FOR THE STUDY OF MENTAL ABNORMALITIES IN CHILDREN.

The mental abnormalities and the mental diseases in childhood are little studied so far. It is partly because parents accept the disposition of children as a gift that must be taken without grumbling, partly because parents as a rule do not like to be advised as to the education of the character of their children.

This is not true with regard to the intellectual training; there, they avail themselves of the teachers quite often. But if a child is a liar, or a thief, or cruel, ungrateful, disobedient, regardless of others, especially of authority, parents do not like to be advised, the fact touches a tender spot in the natural love of their children in their natural worship of their children. They do not like to speak or consult on the subject. People continually, and perhaps fortunately, make allowances for children. In reality the child portrays fairly well the future adult; appearances may change; the true nature of the individual however may be restrained by education, but is never lost and still breaks forth at times. Yet we think the child's life and conduct is of little account.

Our aim must be to collect careful observations of children that show abnormalities. Well established mental disease, aside from idiocy and imbecility, is not frequent among children; but how often do we find mental abnormalities that form the basis for mental difficulties later in life, or even mental derangement? How often are children, through inheritance from parents, in danger of insanity and nervousness, and to what extent do they show abnormalities? What forms characterize the border land between a normal and an abnormal mind in childhood?

We need a great number of careful observations so as to work them up in a way that will become useful not only for the specialist in mental diseases, but above all to parents and teachers, in preventing danger.

Remember always that one symptom does not make a disease of itself, but that it suggests dangers in certain directions when it is associated with many others in a peculiar way. Theory cannot help us to find out the relative importance of such symptoms. The only way to obtain clearness is to collect a great number of individual cases and to follow them through years.

The following sketch is intented to help in making observations and records in this direction.

The Mental Conditions of the Child.

The intellectual faculties are on the whole most easily studied.

Lack of attention can be seen in the infant and is throughout childhood the most important sign of intellectual disorder. Attend first to diseases of the sense organs,—especially of the eyes and ears. Sight and hearing form the chief channels through

which the world reaches the mental life. Defective sight or hearing may cause mental defects, and apparent weakness of the mind. But a child that has good mental possibilities (i. e. suffers merely from defective development of a really normal brain) will improve when the obstacle in vision or hearing is removed, while a child with genuine weakness of mind, i. e., defective brain, has only a limited chance for education.

Attention may be vivid, but unsteady, fleeting; in a nervous child during the excitement of fatigue it may lead to real incoherence of thought and action. Restlessness becomes so excessive that the child looses the control of self completely. Stupor is less frequently the result of fatigue.

Many children take a great, explosive fancy to a thing and drop their interest all of a sudden in order to admire something else, it being often difficult to account for the sudden change. Every child is moody in this respect, but there are degrees which are decidedly abnormal.

Where the intellectual development is one-sided—abnormal talent in special directions or utter deficiency in others—we deal with conditions frequently observed in the history of the nervous patients of our Hospital and also (we may say to the comfort of those concerned) in the biographies of many famous people.

Notice deficiency in the abstract thought; do not confound the repetition of expressions learnt by heart and not digested, with abstract ideation. This becomes evident in reproduction of somewhat difficult thoughts. Does the pupil use freely chosen expressions or merely repetition of the same words?

In connection with these you find abnormal degrees of the power of learning by heart verses or prose, altogether different from the power of repeating freely the contents of the matter learned by heart. All this is more or less common in all children, but excessive cases should attract attention.

Excessive Imagination. Normally children can reproduce voluntarily all sorts of mental pictures in the dark. This becomes abnormal when the mental pictures become an obsession, i. e., cannot be suppressed. Especially pictures that create fear and unpleasant feelings are apt to become excessively strong.

Excessive imagination may lead to the construction of lies and the irresistable impulse to play them on others. This becomes ab-

normal where the desire for deception is irrational, becomes an obsession and leads to actions that bring self or others into great calamities. It may oftener accompany criminal disposition, (stealing) but it has been described as a characteristic entity in juvenile mental disorders.

Imperative Conceptions and Impulses are very frequent. A child has to walk on certain figures of the carpet only; must touch all corners of the table, must make certain movements just so many times before doing something else, must keep rhythm.

Mysophobia (fear of contamination of dirt, fear of metals, etc.) morbid hesitation and scruples belong in a similar category, especially as long as the individual is conscious of the strange irresistable character of the impulses.

Excessive Fear in children is not unfrequent. Where it is not founded on experience of threatening dangers, but is unreasonable, it may affect the whole disposition of the child. *Morbid bashfulness*, blushing very easily, and especially long durations of sad inpressions, *brooding over being slighted*, etc., mark a large class of morbid children and should be looked into before they have undermined the whole disposition.

One of the most important features of certain aberrations is *cruelty*, either as excessive egotism or as positive pleasure in the suffering of others, destructiveness.

Precocious development of sexual feelings is a very frequent companion of other symptoms of a neurotic disposition and is unfortunately, under the present system of making a mystery of everything connected with it, a problem almost beyond control.

Sometimes the formation of very intimate friendships and seclusion from classmates, desire for being alone, etc., is of importance and should be noted.

Pronounced forms of temporary derangements are better known, such as delirium (especially during febrile affections or after exhaustion) furor (sudden outbreak of anger without adequate cause, observed even in children that would wake all of a sudden with such derangement, quite different from somnambulism) ecstasis (for instance through religious over-excitement), night mares, various degrees of somnambulism, laughing and crying spells, etc.

Finally we may mention several characteristic habits of nervous children, *chewing of finger nails*, *incontinence of urine* during daytime or night, *breathing through the mouth*, etc., *headaches*, *convulsions*, *sleeplessness*, *chorea*, further concurrence with deformities and hereditary influences.

These remarks cannot be closed without an earnest word of warning to the observer:

Do not let the child feel that you observe. If you wish to find peculiar symptoms in a child you can always produce them by simply rousing the intense desire for mimicry and the suggestibility of the child. Thus you may do the child harm and deceive yourself and others.

Child-study in the hands of people who make the child feel its importance may do more harm than good, and should be left to those who have tact enough to guide their intelligence.

Do not speak of, or intimate in the presence of children, the result of your observation; do not train morbid self-observation, hypochondria, pleasure in suffering and other hysterical disorders.

Do not overrate the importance of one symptom but pay special attention to their connection and causation.

Contributions on this subject will be highly appreciated and find due consideration.

ADOLF MEYER, M. D., Ills. East. Hospital, Kankakee.

Feb. 28, 1895.

XVI. SIMPLE BUT ACCURATE TESTS FOR CHILD-STUDY.

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Faraday often accomplished wonderful results by the simplest of apparatus; not all experiments need a laboratory. * * * To all

engaged in Child-Study, I suggest the attempt to carry out a set of careful measurements in *addition* to mere observations. For this purpose I have gathered together some simple experiments that can be made by every one.

Here is a row of ten little disks, 3 mm in diameter, cut from elder pith. Each is suspended from a little handle by fine cocoon-fiber. For portability the handles are stuck in holes in a support (Fig. 1). Now let the child place his hand comfortably on the table and close his eyes. Let him tell you when and where he feels anything touch his hand. Without letting him know what you are doing, take the handle with the lightest weight and let the weight softly down till it rests on the palm or back of the child's hand. (Fig. 2.) He does not know that you have done so, and he feels nothing. Then you try the next weight heavier and so on, till he feels the pressure. The little disks are graded in weight, thus, 1 mg, 2 mg, etc., up to 10 mg. Now if the fourth weight was the first the child felt, then 4 mg was the least weight noticeable, or the weight just on the threshold of intensity. This fact of the threshold is one that is to be met everywhere in the study of mind.

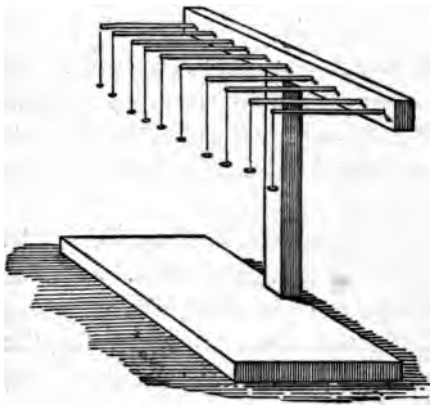

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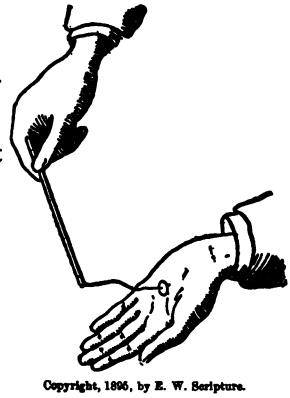
Fig. 1. Touch-weights for Finding the Threshold.



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Finding the Threshold for the Palm of the Hand.

The threshold of sensation for the sense of pressure in an average subject was 2 mg for forehead, temples, and back of forearm and hand; 3 mg for inner side of forearm; 5 mg for nose, hip, chin, and abdomen; 5 mg to 15 mg on inner surface of fingers; and 1,000 mg on the heel and nails.

The accuracy of distinction for space on the skin can be shown

in another way. The child closes his eyes. Touch him with a pencil-point and then let him touch the place with a pencil where you put your pencil-point. The error is measured. (Fig. 3.) There is an interesting application of this experiment which I will propose to mothers. An intelligent and patient mother can teach her child, even before it can talk, to put its finger on the spot on which it is touched. Dip the end of the child's finger in something black, e. g. soot, pencil-filings, powdered graphite, or blacking. Touch the child with a pencil and let him point to the spot. Measure the distance between the finger mark and the pencil mark.

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Fig. 3. Finding a Child's Idea of Skin-space (The Accuracy of Location in a Child.)

Let us find the threshold of space for the skin. An ordinary pair of drawing dividers can be used. Place two points at 1 mm apart. Take this esthesiometer by the handle and gently press the points against the forehead of the child who has his eyes closed and who has not seen the adjustment of the points. He is to say whether he feels two points or one. At this distance he will feel only one. Adjust the points to 2 mm and try again. Proceed in this way till he feels the two points distinctly. Now start with a somewhat greater distance and proceed backward till only one point is felt. The average for the two results is the threshold of skin-space of the particular place of the particular child experimented upon. Here is a specimen table of results from Weber:

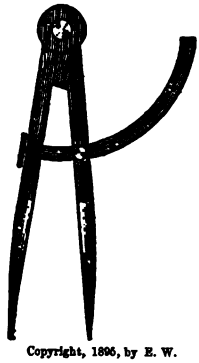

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Fig. 4. Simple Æsthesiometer.

Tongue..... 1 mm. Cheek and Big Toe....11 mm.

Inner side of first finger-joint	2 mm.	Forehead	23 mm.
Lips (red portion)	5 mm.	Back of hand	31 mm.
Inner side of second-finger joint	7 mm.	Leg	40 mm.
Lips (skin)	9 mm.	Neck	54 mm.
		Middle of back, upper arm, thigh	68 mm.

It is very important to measure the effect of an act of will. This is done with the dynamometer. The simplest, and possibly the best, form of a dynamometer is an ordinary spring-scale. An arrangement for studying the strength of pressure between thumb and forefinger is shown in Fig. 5. The iron frame carries a spring-scale of the appropriate strength. The thumb is placed on the cork and the finger on the hook of the scale. When the two are pressed together, the pointer on the scale shows the amount of the force exerted. Spring-scales of various strength can be used.

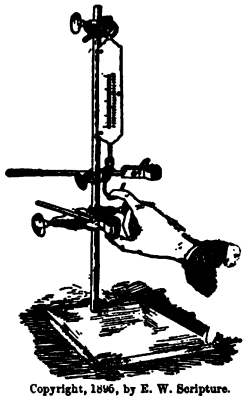

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Fig 5.

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XVII. ANTHROPOMETRICAL INVESTIGATIONS.

Introductory. The subjoined blank designates the measurements taken in the investigations made chiefly in Illinois, with a view to determine the laws and conditions governing the growth of the average Illinois child. These same blanks have been employed, with a large degree of success in measuring Indian and Negro children for the purpose of a comparative study of the races. Perhaps each item of this blank requires a little explication and elaboration.

Date. It is necessary to record the exact date of measurement for each and every child, since several sets of measurements

should be made upon each child and these periodically, too. This will enable the investigator to tell in what order the various functions and organs of each child unfold and develop. From the thousands of children thus measured, statistical averages can be drawn which will serve as forms or standards of comparison. It is of advantage to have the measurements made once a month, or once every five weeks through the year.

Name and Address. These are taken for the purpose of future identification of the records.

Sex. The sex of the child should be indicated for the purpose of finding out in what respects the two sexes differ in their development. Do boys and girls develop their powers and capacities at the same rate and in the same order?—a question to be answered by such measurements as these.

Age. This must be recorded as the child grows more rapidly at certain ages than at others. We must determine the various periods of growth.

Birthplace.—For the purpose of ascertaining the peculiarities of race, nationality, climate, etc., as affecting growth.

Since what age been in school.—To determine whether and in what respect school-life accelerates or retards growth.

Birthplace of Father and Mother.—The reason here is similar to the one mentioned above concerning the birthplace of the child. Do children born in America, but of foreign parents, or of *one* foreign parent, develop in the same way as the American born child whose parents are both Americans.

Father and Mother died of ——. To determine whether the child has or has not any hereditary taint registered in his organism.

First, Second, Third, etc., Child. As a rule the oldest child is at a disadvantage physically, as compared with the other children of the family. Is this also true with respect to mental capacities? Has the second, third, etc., child characteristic differences?

Educational Institution, etc.—To determine the effects of different kinds of schools on the development.

Weight. The weight should always be taken since this is the best single index as bearing upon physical growth and development. Every ten-year old girl in Illinois should weigh —— pounds; every twelve-year old boy of normal development

should weigh —— pounds. These standards we are trying to determine.

Height Standing. To determine the average height of each Illinois boy or girl at any age. Every boy of eight should be —— centimeters high, etc.

Height Sitting. To determine whether the growth in height is growth in length of legs or trunk.

Height right and left shoulder. Is the first growth in height a growth of trunk proper, or is it growth in length of neck or height of head? Do boys and girls grow alike with respect to height? (See Havelock Ellis' "Man and Woman," pp. 41 f.)

Arm reach, left and right arms. The arms do not grow symmetrically, especially in white children. The male arm differs from the female arm, both in youth and adult; the arm of either the Negro or Indian differs from that of the white and from each other.

Girth of Head. To be taken with thin strip of sheet lead, which being very flexible, can be readily compressed about the skull. If this strip is carefully removed and laid upon paper, one can readily trace with a pencil the exact shape of the head. This done each time the girth of head is taken, it is an easy matter to determine in what respect the head grows, from month to month.

Girth of Neck, Chest, etc. These can best be taken with linen tape.

Length of Foot, Width of Foot and Hand. These can best be taken with shoemakers' calipers.

Length of Middle Finger. This best taken with a ruler.

Sight near and far to be tested. Each eye separately for different distances with Snellen optical test-cards. Cost 20 cents.

Hearing right and left ear. Distance can hear a watch tick. Let the pupil be blindfolded and one ear closed (best, plugged with cotton); note distance at which ticking can be heard, with one ear closed, when the watch is brought *toward* the pupil. Relative distance will reveal the defectives. Nineteen per cent of the Illinois pupils have defective hearing in one ear or both. Most cases of so-called stupidity can be attributed to defective hearing.

Color-blindness.—This can be detected most easily with a set of Holmgren's worsteds.

For the last three tests, especially the one on auditory memory, reference should be made to Krohn's "Practical Lessons in Psychology," more especially to chapter XXV., "Methods of Testing and Measuring the Faculties in School Children."

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MEASUREMENT BLANK.

This is the form of Measurement Blank No. 1 used by Dr. Krohn in the Laboratory of Psychology, University of Illinois

Date.....

Name.....

Address.....

Sex.....

Age: years.....months.....

Birthplace.....

Since what age been in school.....

Birthplace of father.....

" of mother.....

Father died of.....

Mother died of.....

Are you your Mother's 1st, 2d, 3d, 4th, etc., child? (including deceased brothers and sisters).....

General health: *Past*: Good, fair, poor.
Present: Good, fair, poor.

Educational Institution you are attending or have attended.....

.....

Weight, with ordinary clothing.....

Height standing.....

sitting.....

shoulder, R.....

shoulder, L.....

Arm Reach, L.....

" R.....

Girth, head.....
Girth, neck .....
chest.....
waist.....
hips.....
arm, R .....
" L.....
elbow, R.....
" L.....
forearm, R.....
" L.....
wrist, R.....
" L.....
Length of foot.....
Width of foot.....
Width of hand.....
Girth, calf, R.....
Girth, calf, L.....
ankle, R.....
" L.....
Length of middle finger.....
of glabella to occip. pro ....
Sight, near.....
" far .....
Color-Blind.....
Hearing, distance hear watch tick. Right ear.....
Hearing, distance hear watch tick. Left ear.....
Division of lengths by sight...
Auditory memory.....
Equality of movements (with eyes closed) 1, 2, 3, 4.....

XVIII. THE PREREQUISITES OF THE SCIENTIFIC OBSERVATION OF CHILDREN.

The great impulse lately given to the study of children seems to grow directly out of the spirit of modern times. This spirit may be said to be the disposition to submit again all the conclusions and knowledge of the past to the test of fact in order to discover, if possible, whether they fulfil the conditions of truth. Speculation is at a discount; the pendulum of philosophical thought now swings toward observation and experiment and however much value we place upon pure speculation it seems right that the pendulum should be given full and free swing, since the arsis in any rhythmic movement determines the length of the thesis. Under such circumstances men are apt to seek new fields of study as well as to question the conclusions of previous thought and experiment. For many reasons the minds of the people are turning to the study of children. The strong repression and rigid discipline under which children have generally been brought up among civilized peoples have been relaxing un-

der the disolving influences of modern thought and parents are now finding their children quite as full of interest and entertainment as they were formerly sources of watchful care and painful anxiety. Children are not accepted as gifts from God as they used to be, but they are sought after for their own sakes and the joy and comfort they bring.

The study of children encounters peculiar difficulties in spite of the fact that the material seems so abundant and the persons who might engage in the work are so numerous. No other study seems to command the attention of so many and so varied classes of people. All teachers find their chief concern in the growth and development of either children or adolescents and most adult members of society, being parents, spend the larger part of their time and strength in caring for and rearing their children and in providing for their future comfort and happiness. For the general teacher the child is not an object of profound interest and study; his own theories of pedagogy and psychology are frequently satisfactory to him and he does not desire to make further inquiry into the nature of the child. When the teacher has succeeded in bringing about in the child a certain reaction to a given fact, his interest stops short. The conditions under which he sees the child are not conducive to free an unrestrained activity; the observations which he is able to pick up may have some value for understanding the intellectual activity of the child, but in general it is well to consider carefully anything that the teachers may report with regard to the conduct of their children. As for parents the fact that they must live with their children and take the burden of their training upon themselves is not a proof that they understand their children. To many parents children are unwelcome and to others they become in time irritating and disturbing nuisances. The feelings then of all parents are not identical and therefore all cannot be relied upon to give trustworthy or valuable information in regard to the actual character and nature of their children. The number of persons who can be enlisted in this work is greatly reduced. But again certain things relating to children can be studied only by persons who have been especially prepared by scientific training or who have special aptitudes for a particular line of work. And still further the accessibility of the material is not so great as one

might at first suppose. It has been found that many, if not most, parents are superstitious and jealous of any attentions that persons desire to bestow upon their children. People in general do not wish to be regarded too critically and they guard their own children with the same care; they seem to look upon any attention that may be given to their children as an infringement upon their own personalities. Most parents feel that their children are perfectly normal and hence no examination is needed and even if they know that their children are defective, they will resist any effort to examine into the defects or to have them pointed out, perhaps from a fear of an exposure of the child's vulnerable point. Such a fear is more or less well grounded, but very generally it grows out of the old superstitious belief in phrenology that some persons possess or have acquired the power to read the character of others. Anthropologists meet a similar opposition even to the taking of measurements and are not unfrequently warned to keep their hands off the children under penalty of prosecution for trespass. Physicians must exercise great care in approaching parents about the defects or even the general characteristics of their children. The advice of an experienced physician is to go slow and get the parent to make the first advance if anything is to be said about the defects or peculiarities of a child.

When we come to the actual study of a child we must exercise the greatest care in dealing with him; unless we do, he will exchange places with us; he will become the observer and we the observed. As soon as he becomes aware that he is being observed he translates himself into another and does not show his own and real personality. He challenges us to a contest at observing and gives us an example of the kind of thing he can do for the benefit of his audience. Except for a few things it is impossible to study him as Lubbock studied his ants or as Darwin's gardener said his master was attempting to study his plants by "making them do things!" The child will not admit of hothouse cultivation for the sake of experiment. The method of study must be of the nature of a still hunt. The trout will not bite after he has seen the fisherman; and a child will not play in a free and unrestrained manner when people make a business of watching him.

The fact that children become self-conscious (this is a poor word to express the idea) prevents the pursuit of the method that can be and is followed in the study of other sciences. It would seem, then, that the observer must confine himself to the collection of chance observations of children rather than to the following out of a systematic outline of suggestions. In this we refer simply to the study of mental development. This leads up to the point where the question may suitably be asked whether the publication of this book itself may not defeat the purpose which it aims to accomplish. Are we not quite as liable to prejudice the observer and render him self-conscious by placing in his hands an outline of suggestions, as the observer is to make the child whom he studies self-conscious? An emphatic reply can be made to this question either in the affirmative or in the negative. Long experience in a laboratory of experimental psychology has taught me that it is impossible for all persons to come to an experiment unprejudiced and in a condition of naiveté. Many persons can not maintain their integrity in the presence of a suggestion. A double error is likely to occur; they will either read the suggestion into or out of the phenomena which they are viewing. I quote from my article upon rhythm in the American Journal of Psychology, Vol. VI., page 145, " Certain attitudes, habits and characteristics of mind do, however, affect results in ways that are injurious to the experiment. . . . . There are three classes of psychological subjects. The first includes those persons who yield immediately to any suggestion that is offered. This attitude results from a social practice. In society people do not wish to antagonize others. They give assent to any opinion. In an experimental investigation, if the operator gives the slightest hint of his preference or opinion they will add the weight of their opinions to his. If they are forced to render judgment without a knowledge of his preference they do it tentatively; they are not sure. Of a number of possible views they can not make up their minds which is the correct one. They generally split hairs until they find out some one's opinion and then agree with that.

" The second class of subjects includes those who take a moderately critical attitude. They are concerned in others' opinions so far only as others' opinions suggest different points of view. They give their own opinions when they have considered all the phases

of the experiment that are suggested to them. They are unconcerned about the outcome of the experiment. . . . . .

"The third class includes those persons who are excessively critical. They incline always to an opposite view. The experiment is not conducted properly, they are not in the best mood for judgment. They are sure to take ground against another's opinion. If they can not get any clue to others' opinions, they are doggedly silent or quibble and refuse to answer except they qualify their answers to such an extent that they mean nothing. This class of subjects is intellectually dishonest. If they are compelled to answer, they indulge in hair-splitting differences between their opinions and those of others. . . . . It is a fact which every psychologist must understand that certain classes of persons are incapable of introspection. The first class to which we refer are unfitted, because of habits of too free judgment and of always agreeing with others. The third class is rendered unfit for introspection from habits of too free judgment in regard to matters that concern themselves and from an unnatural bias toward the negative. They are inclined to make too much of their individual opinions."

The case is not different when it comes to a study of children. If they are studied with some particular purpose in view the student feels bound to prove or disprove the opinion of some one else. It seems to me an eminently proper thing for an observer to observe and record those acts and sayings which interest him without regard to their value and leave the question of the value to be determined at a subsequent time and perhaps by another person. The fact of interest itself alone furnishes the ground for making the observation and it will doubtless be shown in the long run that interest is an evidence of value.

Among the classes of persons who are disqualified we may mention many parents and many school teachers. The first class have too much stock in the pupil and the other as a rule too little. Parents generally are prejudiced in the child's favor and will read too much into the child's conduct when it is in his favor and too little when it is against him.

We do not wish to be understood as saying that neither parents nor teachers can contribute anything to the investigations; our thesis is that parents are too much interested in their chil-

dren to treat them with perfect fairness and that teachers generally meet them under conditions of restraint and repression. It is a popular error that parents must understand child-nature from their long association with children and that investigators are only theorizers. Parenthood or the fact of being a teacher does not disqualify but it *should make us cautious.*

Experience in the observation of children here reveals the fact that in general the fewer the suggestions offered to the observers the better will be the records. Some observers keep up an attitude of naiveté and preserve their own integrity when suggestions are offered them to follow, but in general the character of the observations deteriorates when too many or too minute directions are offered for the observers to follow. The study has been carried on in the school where I teach for twelve years and during this time it has undergone a distinct and far-reaching evolution. One who is acquainted with the records can tell with a fair degree of certainty whether a given record belongs to an early or a late period. A similar evolution takes place in the observer; the records of observations which a pupil makes when she first enters the school are very likely to bear a resemblance to the records made when the experiment first began. Occasionally we find a pupil who shows so much insight and judgment in observing and such a spirit of disinterestedness and such accuracy and clearness in recording the observation that we are led to believe that some pupils possess a natural aptitude for the work of studying children and yet we try not to be blinded to the fact that almost any authentic instance of child conduct has value and deserves attention.

Students of childhood have need to be cautioned against becoming critics of children rather than observers. The critic acts with a self-conscious purpose and remains always outside of the child, so to speak; he does not study the child from the child's standpoint. The real observer of children tries to put himself upon a level with the child and to take the child's point of view; he gets his information quite as much from the introspection of his own mental processes as from noting what the child does. The naturalist, who is much like the student of childhood, betakes himself to 'Walden Pond' or to some other place that still retains its native beauty and waits for nature to reveal herself to

him. He does not ask for a guide or suggestion and takes none. Now what the naturalist is to the biologist the student of childhood should be to the experimental pyschologist. When he sets out to experiment with children he is enroaching upon the field which belongs only to the trained observer and expert scientist.

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XIX. AIMLESS ACTIVITY IN CHILDREN.

In spite of what I have said (XVIII) in regard to offering suggestions to observers let me offer a few words in respect to a certain class of child activities simply because they have been somewhat neglected. I refer to a kind of aimless, purposeless activity manifested by all children. Imitation has been seized upon by many students as the primordial element or fiery mist of play out of which all else is developed and the advocates of this have pretty strong ground to stand upon. Now this aimless activity seems to me to have some claims, though perhaps not equal to those of imitation, to be regarded as one of the most fundamental elements in child-development. This aimless, purposeless play is much greater in amount than we would at first suppose. Not infrequently we find children in a condition of "what shall we play?"—to use the language of children themselves. There are interludes between the plays proper—imitative plays—the activities of which all unite in calling play. At such times children are by no means quiet. The normal healthy child is scarcely ever quiet during his waking hours.

Francis Galton made an investigation a few years ago in which he asked the pertinent, and somewhat paradoxical question, "What do you do when you do nothing?" The question carried with it a revelation to most of the persons to whom it was addressed. Never, until then, did they realize how difficult it was to remain free from activity of some kind. Most of them discovered that when they were free from concern, either mental or physical, they fell asleep. A brilliant article was written a few years ago upon the ethics of rest; in this the author recommended, as the proper way to find rest, to practice oneself in falling upon a couch and relaxing all the muscles at the same time. Rest was

to be obtained when all the muscles, and the attention as well, were in a state of complete relaxation. The same regimen was prescribed as a convenient way of putting oneself to sleep. Psychologists are beginning to recognize that bodily activity stands in much closer relation to conscious activity than they have been accustomed to believe. The writer has long been in the habit of writing the words "yours truly" whenever he finds himself unoccupied. Observation of high school pupils has shown that most pupils have some similar habit which sticks to them until it is displaced by another.

A little observation suffices to show that child-life exhibits many activities that have no purpose except to drain off the child's energies. These activities are not necessarily in the nature of fixed habits as they are in adults; they are simply without form or meaning. Some form of activity is demanded as a condition of consciousness itself; when there is an absence of movement of every sort the child falls asleep. A convenient way to put an infant to sleep is to hold his hands and feet still a moment—only arrest his movements for a few seconds. A little boy is reported to have said that his legs felt like running. The child's members crave exercise and he runs about the house, frequently around the dining table, half an hour at a time several times a day. The slight feeling of dizziness which this gives rise to, is doubtless a motive for keeping it up. It is extreme dogmatism that contends that the child is doing something that he has seen some one else do. Granted that the child did imitate some one in the first place, it is not the imitative impulse that keeps it up. Some chance movement often discovers to the child certain peculiar sensations, many of them akin to dizziness and the movement is repeated for the sake of the sensation. A child in stepping down from a chair discovers the apparent motion of the moon. She repeats the movement to realize again the illusion and then continues to jump up and down calling to her brother to "see the moon go round." Some boys lying down upon the lawn roll over and get the soft cooling sensation from the grass combined with slight dizziness and then continue to roll over. Sometimes they put their arms and feet about one another and roll together from one end of the lawn to the other. Turning somersaults, standing upon their head, rolling or falling down embankments

in every conceivable way, jumping from the beams of a barn upon the hay, whirling around on the heel and such like sports depend for their charm upon the peculiar sensations which the motions yield. Some of them may have been discovered through imitation, though there is abundant reason to believe that they are frequently discovered by accident.

Another class of activities seem to be pursued for the sake of entertainment. The dull monotony of sitting still in the schoolroom is extremely irksome to the active child and at church he often shares with the adult members of the congregation the tedium of sitting through a long dull sermon. When you begin to feel that the "linkéd sweetness" is being long drawn out, observe any ordinary four-year old child in the congregation and I venture you will forget your feelings of ennui and find an interest in what has presented itself to you heretofore as a nuisance that must be endured. Cases are reported of children counting upon their fingers the long words the minister used in his sermon and of keeping an account of the number of times he used a certain word or gesture. You will doubtless find that you yourself have been counting the number of circles or squares in the wall paper or in the fresco; perhaps you have been matching the figures or dividing them up into rhythmical groups to find the centre of the front wall of the church or one-third or one-fourth of it, perhaps a certain figure is constantly changing into the form of an animal, a friend's face, a tree, a house or what not. All this shows a struggle to get away from that which is before you to something more agreeable.

Take a look into the nursery when there seems to be a lull in the usual din there and you will find your child, perhaps, sitting upon the floor reciting quietly to himself, "Te, ti, to, tum; te, ti, to; se, si, so sum, se, si, so; ne, ni, no, num; ne, ni, no." Again it is, "Ispoze, Ispe-o-z-e; Ispoze, Ispoze, Ispe-o-z-e." Sometimes he tries to say the rules in arithmetic which he has heard his brother reciting and pounds upon the floor with a stick to accompany the recitation. "Renounce it by frees and fours and sevens and nines and squeeze it as tight as you can," (Observe the rhythmical movement). It would not be difficult to multiply instances of this sort of play. Rhythms and rhythmical movement play an immense part in child-life and that person

who will take the suggestion and follow it out will contribute something of importance both to pedagogy and to psychology.

The thoughtful observer will have grasped the meaning of these suggestions upon activity-play and can easily multiply from his experience instances that will lead him to further observation and, after a time, to experiment.

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XX. THE STUDY OF CHILDREN'S INTEREST.

It is desirable that as much of our child-study as possible be brought into close and direct connection with the everyday problems of the school. The problem of the course of study is one of the most urgent now before us, as it has been for many years. It is undoubtedly a mistake to attempt to settle this problem on the basis of one or two principles, to the exclusion of other elements. One important element which must be taken into account along with others is the native interest and natural tendencies of the children, and on this side of the question systematic child-study can throw much light.

We must distinguish between the interest that is created by a successful teacher and the interest which children spontaneously take in any subject or any portion of a subject. A skillful teacher can interest his pupils in almost any subject in which he is himself interested. But there are some things in which children are more readily interested at one age than another. The principle of economy of effort would suggest that under certain limitations we select at any one place in the course of study those subjects for which the children have already a natural basis of interest in preference to those subjects for which they are not yet prepared, or those others which would have been more suitable at an earlier age.

Many of these variations in children's interest are readily apparent, but it would seem that much knowledge is assumed in this subject which is not borne out by a careful inquiry into the facts. The problem before us here is briefly stated thus: To determine what are the changes in the natural interest of children, which appear in the course of their development, in so far

as those changes are of significance in connection with the determination of the course of study.

It will not be forgotten that there are great individual differences among children which must be taken into account. It is even possible that in some things these differences will be so numerous and so great that it will be practically impossible to arrive at any generalization which will be of use in determining our curriculum; but in most cases it will probably be found that the great majority of children of any age are in substantial agreement as to their instinctive preferences. In those cases we may generalize with direct advantage to the course of study, at the same time that we cannot in fairness overlook or ignore the instances of children who vary greatly from the average.

It will be profitable to approach this question in a perfectly general way, seeking simply to determine as far as we can from the evidences as they come to us, what things the children are most interested in. A large number of observations on this line would undoubtedly yield valuable generalizations. The ordinary cautions in regard to such observations should be observed here to the fullest extent: That the observations recorded should be the actual observations of the one making the record; that they should be recorded as soon as possible after the observation is made, certainly before a day has passed; that the age of the child observed should be noted, together with any significant facts regarding his antecedents and surroundings; and that the "personal equation" of the observer should be scrupulously kept out of the case.

We may approach this subject in another way, making a special inquiry with reference to some one branch of study or some one division of the course. An inquiry has been going on for two or three years into the varying interest of children in the different kinds of narrative. For convenience in making this inquiry, three principal forms of narrative have been selected, viz., first, folk-lore stories; second, stories of legendary heroes; third, stories of heroes of history. The question proposed has been which one of these three classes of stories appeals most strongly to each of the children observed. In the inquiry in this field, so far as it has been conducted, it has been found that children cling to the more childish form of narrative to a much later

period than is commonly supposed, the interest in legendary literature and in historical stories being comparatively late in coming to the front. Does this fact argue that the second and third forms of narrative should be reserved for a later period in the course of study than is commonly the case; or that in introducing these higher forms of narrative where they are now introduced, exceptional pains must be taken by the teacher to arouse and fix the children's attention? Whichever view may be the correct one, it is at least of importance to know the fact. But more extended observations may show that in other portions of the country from those in which the observations have thus far been made, a different set of conditions will be found to prevail.

As will appear from what has been already said, this study of children's interest in narratives is regarded merely as a part of a larger study of this changing interest in all subjects of the course. Some effort has already been made to determine what is the real nature of children's interest in natural science subjects at different stages of their development. Attention has been called to the fact that the description of natural objects, which occupies so large a place in our current instruction, is often seen to be altogether lacking in interest to the children who receive the instruction; and a suspicion has been raised that this lack of interest may not be wholly due to a lack of skill on the part of the teacher, but may suggest a real unreadiness on the part of the children for this kind of instruction. Attention has been called further to the fact that some children seem greatly interested in the processes of development in plants and animals, while many others care but little for these things, and the inquiry has been raised whether if the same subject were presented to the same children at another stage of their school life it might not meet with an altogether different response. The great interest of many small children in the mere recognition and naming of natural objects has been observed. All of these things seem to point to the possibility of discovering some fairly well-defined sequence in the development of the natural interest of children in natural science. The subject is worth a much more extended and careful investigation. Similarly the inquiry into the changing interest in numbers and numerical operations, in language, in poetry, in geography, etc., opens up a wide field

for study, in which all of the facts that may be discovered are likely to have a direct and important bearing upon this perplexing problem of the course of study.

The Department of Pedagogy in this University will be happy to co-operate with any who are already engaged in studies in this domain or desire to undertake such studies. We shall be able to supply blanks for a portion of these inquiries, and shall be most happy to advise with any who may be disposed to work in in this direction. We shall be especially grateful to any who will communicate to us any discoveries which they may have made in this line, in order that they may be compared and co-ordinated with the results already secured.

It would be too much to hope that any final and strictly scientific result can be secured by observations made in this way, the observers having little opportunity for conference together, and consequently working of necessity according to individual methods, which will be more or less divergent. But these observations can undoubtedly serve a very important purpose in blocking out more definitely our working hypotheses in this important field, and so preparing the way for the more exact and special work which must follow. They will moreover serve the immediate purpose of effecting a closer adjustment between the daily instruction of the observers and the pupils whom they instruct.

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XXI. METHODS OF CALCULATING RESULTS IN CHILD-STUDY.

In dealing with results or data of a similar kind the question always presents itself—what one result can we consider as a representative of them all? In making an estimate of the mental ability of any class of pupils we judge them not by the brightest among them and not by the dullest, but we seek that one who will come nearest representing the whole. He will not necessarily be the average pupil but rather the middle pupil.

Suppose you wish to compare the two sexes of children in respect to height; would you take the average height of each sex? Perhaps you would, but in so doing you would not be doing

quite right. For convenience and brevity take an example where there are 10 children of each sex. Suppose the height of the boys to be 65, 66, 65, 65, 66, 64, 65, 66, 62, 53 inches respectively. The average is 63.7 inches. Now the heights of the girls are, say, 64, 65, 64, 63, 64, 64, 64, 65, 62, 64 inches, making an average of 63.9 inches.

Would we be justified in saying that the girls in this case are taller than the boys? The boys appear by calculation shorter than the girls because there happens to be one very short boy. Had we by chance chosen a short girl instead of a short boy our results would have been reversed, the boys being taller than the girls. It is manifest that the representative boy is taller than the representative girl, or to put it in other words, we would say the boys are taller than the girls with perhaps the qualifying statement that one boy is unusually short—this qualification is taken account of in the mean variation as we shall see later.

This difficulty, arising from the occurence of abnormal data, occurs everywhere in the scientific study of children so long as we use the average. In fact it is not confined to the study of children but is most prominent here owing to the unstable sort of development in the child. The more abnormal a child is, the more he influences the average.

In calculating the results of my tests on school children I adopted the medium in place of the average. What is the "medium?" It is the "middle" child. To recur to my illustration of height —stand the boys in a row according to size; count them off from each end up to the middle. Thus it would be 53, 62, 64, 65, 65, 65, 65, 66, 66, 66. In order to get the middle boy we must take the value half way between the fifth and the sixth. Since five and six are each 65 in this case it would be the value sought or the "mean." Likewise with the ten girls; 62, 63, 64, 64, 64, 64, 64, 64, 65, 65—the middle girl is 64 inches tall. By this method, it will be seen, each child counts as one child. If the the smallest boy is only half as tall, that makes no difference—he is simply a "short" boy.

The "medium" proved far more satisfactory in all my tests than the average and especially so in the mental test where some slight distraction of the attention or some external influences caused a noticeably abnormal result. Such a representative value,

or "middle" value,is called a "mean." In the remainder of this article I shall use the general term "mean" which applies equally to the "medium" and the "average."

Although I used mainly the medium in computing the measurements on New Haven school-children, I also added the average value in most cases for the sake of comparison, as can be seen by referring to my charts as presented in Dr. Scripture's article. Again, suppose in comparing the mean heights of two groups they turn out to be 65 for each. This does not necessarlly say that the two groups are alike, for there is something else we must know besides this mean, namely, the closeness with which the children are grouped around the mean. The one group of children often may all be of one nationality, as would be the case should we select the ten from some densely populated Italian quarter of a city, and then the individual children would perhaps be very close around the mean. The mass is fairly homogeneous. Suppose, on the contrary, each of the second group is of a different nationality, the individual will vary widely, although the final average may be the same. How shall we get an estimate of this homogeneity? In measuring the children of one class we have, say, 65, 64, 65, 65, 66, 65, 64, 66, 64, 66. The medium is 65. Now find the difference between the mean and each figure or separate result. Then, 65—65=0, 65—64=1, &c. You thus get the ten numbers, 0, 1, 0, 0, 1, 0, 1, 1, 1, 1. The average of this is $\frac{6}{10}$=0.6. This is called the statistical mean variation for that group. Now, in measuring the children of a second class we have 61, 67, 66, 63, 65, 64, 60, 68, 66, 65. The medium is the same as class I, but the sucessive differences or variations are 4, 2, 1, 2, 0, 1, 5, 3, 1, 0. This gives a statistical mean variation of $\frac{19}{10}$=1.9. Evidently the second class is far less homogeneous than the first. The statistical mean variation expresses the diversity or irregularity of our results.

A person never does the same thing twice exactly alike, and when a number of measurements are made on the same person, it becomes necessary to know how he agrees with himself or how much variation occurs between his separate results. Suppose a boy repeats the experiment on reaction-times ten times, we find that his mean is 21 hundredths of a second. This is not all we must know, but accuracy demands of us how regular the

boy is in the separate acts. Find his mean variation in the way described above. This, however, is not a statistical matter but a figure which represents the boy's irregularity. The larger the figure, the more irregular the boy and, consequently, the less reliable the mean or average. Here, also, in my tests on New Haven school children, besides calculating the statistical mean variation in order to know how homogeneous the group of children was, I also calculated the individual mean variation, and since they were mental quantities, I averaged them for each age in order to show how the regularity of the child's mental action changed with age. Such a case can be seen for illustration in the figure below, which represents the mean variation for the length of time required to discriminate between red and blue and to react after discrimination. Figures at the left indicate hundredths of a second. Those at the bottom indicate the respective ages. The main curve for the mean or average can be seen in the figure of Dr. Scripture's article.

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Statistical mean variation ————————
Statistical mean variation for boys ----------
Statistical mean variation for girls —— - —— - ——
Average individual mean variation —— · —— · ——

LITERARY REFERENCES.

It is the purpose of this department of the Hand-Book to furnish the members of the Society, and those making use of the Hand-Book, with a more or less serviceable bibliography of the literature on the subject of Child-Study and kindred sciences. For the present we restrict the references to English publications. Future publications of this Society will add to this list of references, and the Secretary of the Society will be glad to be notified of any errors or omissions in the following lists, as it is not claimed that they are complete.

I—CHILD-STUDY IN GENERAL

"The Children, How To Study Them," Dr. Francis Warner, London, '87.
"Child-Study the Basis of Exact Education," G. S. Hall, Forum, vol. 16, p. 429.
"Studies of Childhood," J. Sully, Pop. Sc. M. vol. 45—46, nos. 267—276.
"Scientific Method With Children," H. L. Clapp, Pop. Sci. Month, vol. 44, p. 57.
"New Method of Child-Study," J. M. Baldwin, Science, vol. 21, p. 213.
"A Plea for Special Child-Study," William L. Bryan, Add. and Proceed. of Internat. Cong. of Ed. Chicago, 1893.
"Studies from the Yale Psychological Laboratory," Ed. E. W. Scripture, vol. 1, 2, and 3, Yale University, New Haven, Ct.
"The Aims and Status of Child-Study," E. W. Scripture, Ed. Rev. vol. 8, p. 236.
"Study of Children," H. K. Wolfe, Ed. vol. XI, p. 201.
"Children of all Nations," Collection of Papers, Lond. Cassell & Co.
"The Child," Dupanloup, Boston, 1875.
"The Child and Child Nature," Marenholtz Buelow, Lond. 1890.
"Manual of Anthropometry," Roberts, Lond., 1878.
"Reports for Various Sections of the National Association for Child-Study," Addresses and Proceedings, National Ed. Assn., 1894.
"Report of Committee on the Study of Child Development," of the Assn. of Collegiate Alumnæ, Mrs. Annie Howse Barus. Add. and Proc. Nat. Ed. Asso., 1894.
"Fragments of Child Life," E. H. Fowler, Longman's Mag. Vol. 24 and Lit. Living Age, vol. 201.
"Child Study in the Hospital, a Record of 600 Cases," H. D. Chapin, Forum, vol. 17, p. 125.
"Child-Study, a New Department of Education," O. Chrisman, Forum, vol. 16, p. 728.
"Teacher's Record of her Pupils," M. E. Laing, Forum, vol. 17.
"Children," All the Year, vol. 74.
"Anthropological Investigations in School," Franz Boas. Ped. Sem. vol. 1, No. 2.
"Observation of Children at the Worcester Normal School," W. H. Burnam, Ped. Sem. vol. 1, No. 2 and Separate Reprint.
"An Anthropological Cabinet for Pedagogical Purposes." Sergi. Ed. Sept.'86.
"Cambridge Anthropometry," John Venn. Journ. Anthrop. Inst. v. 18.
"A Scheme of Classification for Child-Study." W. H. Burnham. Ped. Sem. vol. 2, No. 2.

"A Method of Examining Children in Schools as to their Development and Brain Condition," Dr. F. Warner, Brit. Med. Jr. Sept. 22, 1888.
"Application to Individual Children of Anthropological Measurements from Generalizing Method," W. T. Porter, Am. Statis. Assn. vol. 3.
"Suggestions to Pupil Teachers for the Observation and Study of Children," M. V. O'Shea. Soon to be published. At present, Mankato Journal Print., Minn.
"The Scientific Investigation and Study of Children," Mrs. H. Adler, N. Y. 1891.
"South Carolina Association for the Study of Children," Bulletin No. 1, Feb. 3, '95, Thomas P. Baily, Jr.
"Report of the Associate Alumnæ of the Normal College of the City of New York. Report of Committee of Child-Study, including Syllabus." May, 1894.
"Topical Syllabi of Child-Study," G. S. Hall, 1895, Nos. I-XV.
"A Study of Child Nature," Elizabeth Harrison, Chicago, '91.
"Syllabus and Blanks for Study of Children," N. A. Calkins, N. Y. 1891.
"The Study of Children at the State Normal School, Worcester, Mass.," E. H. Russell, Ped. Sem. vol. 2, No. 3, and separate reprint.
"Child-Study as a Basis for Psychology and Psychological Teaching," G. S. Hall, Add. and Proc. of the Intern. Cong. of Ed., 1893.
"Studies on Children from the Oakland School Report," 1892–3, Dept. of Ed. Leland Stanford, Jr. Univ. Cal.
"The Psychological Study of Children," J. Jastrow, Ed. Rev. vol. 1. p. 253.
"British Society for Children," The Rev. of Revs., N. Y. vol. 4, p. 693.
"A Book About Boys," A. R. Hope, Edinburgh, 1868.
"Youth; Its Care and Culture," J. M. Granville, N. Y.

II. Useful Works in Psychology.

"Mental Development in the Child and in the Race," J. M. Baldwin, N. Y., 1895.
"Handbook of Psychology, Senses and Intellect," J. M. Baldwin.
"Psychology," James, Am. Sci. Series, N. Y. 1892.
"Outlines of Psychology," J. Sully, N. Y., 1895.
"Thinking, Feeling, Doing," E. W. Scripture, Meadville, Pa.
"Psychology of Childhood," Tracy. D. C. Heath & Co., '93.
"Science of Thought," Max Mueller. Charles Scribner's Sons.
"Physiological Psychology," Ziehen-Van Liew. Sec. Ed. Swan Sonnenschein Co., London, 1894.
"The Development of the Intellect," Preyer. Internat. Ed. Ser., N. Y., 1889.
"The Senses and the Will," Preyer, Internat. Ed. Ser., N. Y., '88.
"Mental Development in the Child," Preyer, Internat. Ed. Ser., N. Y. '93.
"Problems of Comparative Psychology," J. Jastrow, Pop. Sci. Month., Nov., '92.
"Practical Psychology," W. O. Krohn, Chicago.
"Elements of Physiological Psychology," Ladd., N. Y., '89.
"Psychology," John Dewey, N. Y. '93.

III. The Development of Children.

"Growth of Children," Peckham, vol. 1, Annual Report, State Board of Health, Wis., 1881.
"School Life in Relation to Growth and Health," A. Key, 1890.
"Heredity," T. H. Ribot, N. Y., 1889.
"Mental Evolution in Man," Romanes, D. Appleton & Co.
"The Neuroses of Development," Clouston, Oliver & Boyd, Edinburgh.
"Life History Album," F. Galton, British Medical Assn.
"Statistics of the Normal Development of Children," F. Warner, Anthropological Journal, vol. 23, p. 205.
"Growth of Children," Science, vol. XI, p. 28.
"Study of Child Growth," Dr. B. Holmes, Intelligence, vol. 14, p. 323.
"Growth of St. Louis Children," W. T. Porter, Am. Statis. Assn., vol. 4, p. 28, and Trans. of Acad. of Sci. of St. Louis, 1894, vol. 6, p. 335.

"Study of Adolescence," W. H. Burnham, Ped. Sem., vol. 1, No. 2.
"American Childhood from a Medical Standpoint," H. L. Taylor, Pop. Sci. Mo., vol. 41, p. 721.
"Growth of Children," Bowditch, vols. 8, 10, and 22, Rept. Mass. State Bd. of Health.
"Remarks on Rhythm in Education," G. S. Hall, Add. and Proc. N. E. A., 1894.
"Researches on the Physical and Mental Development of School Children," J. A. Gilbert, vol. 2, Studies from Yale Univ.
"The Primitive Child," L. Robinson, North Am. Rev., vol. 158, p. 167.
"Early History of Mankind," E. B. Taylor, N. Y., 1878.
"Phenomena of Child Growth in Education," G. H. Hudson, Education, vol. 14, p. 466.
"Psycho-Genesis," Preyer, Jour. Spec. Phil., April, 1881.
"Story of the Boyhood of Great Men," A. H. Yoder, Ped. Sem., vol. 3, No. 1.
"Life and Education of Laura Bridgeman," Boston, 1878.
"Mental Evolution in Man," Darwin.
"Growth of Memory in School Children," T. L. Boulton, Am. Jour. Psy., vol. 4.

IV. Some Physical Aspects of Child-Study.

"Preliminary Study of Motor Ability," J. A. Hancock, Ped. Sem., vol. 3, No. 1.
"Muscular Movement in Man," Warner, Jour. Men. Sci. 1889.
"Mirror Writing and Left Handedness," Ped. Sem., vol. 3, No. 1.
"Postures of Children," M. L. Pratt, Ed., vol. 14, p. 408.
"On the Development of Voluntary Motor Ability," Bryan, Am. Jour. Psych. 1893.
"Education of Nervous System," H. H. Donaldson, Ed. Rev., vol. 9, p. 105.
"Habitual Postures of Children," Eliza M. Mosher, Ed. Rev., vol. 4.
"Motor Ability of Children, a Preliminary Study," J. A. Hancock, Proc. and Add. of the Nat. Ed. Assn., 1894.
"Muscular Movements in Man, and their Evolution in the Infant," F. Warner, Men. Sci., April, 1889.
"Origin of Right and Left Handedness," J. Mark Baldwin, Sci., Oct. 31, 1890.
"Origin of Right Handedness," J. M. Baldwin, Pop. Sci. Mo., vol. 44, p. 606.
"On the Education of Muscular Control and Power," Scripture-Smith-Brown. Studies from Yale Univ., vol. 2, p. 114.
"The Nervous System and Education," Chrichton-Brown, J. & A., Churchill, London.
"The Physiology of Exercise," Pop. Sci. Mo., vol. 21.
"On the Principle and Methods of Assigning Marks for Bodily Efficiency," F. Galton, Nature, Oct. 3, '89.
"The Special Kinesiology of Educational Gymnastics," Dr. Beron Nits Posse, Boston, '94.
"Essay on the Physiology of Writing," D. Javol, N. Y. '94.
"Brain and Sense Organs of Laura Bridgman," H. H. Donaldson, Am. Jour. Psy., vol. 3, p. 293.
"Brain and its Functions," J. Luis, Internat. Sci. Ser., N. Y., '82.
"Relation of Neurology to Psychology," H. H. Donaldson, Am. Jour. Psych., vol. 1, p. 209.
"A Report on the Examination of 100 Brains of Feeble-Minded Children," A. W. Wilmarth, Alienist and Neurologist, Oct., 1890.

V. Mental Development

"Records of Thoughts and Reasonings of Children," H. W. Brown, Ped. Sem., vol. 2 and 3.
"Mental Faculties," Warner, N. Y.. 1890.
"Eye-mindedness and Ear-mindedness," Jastrow, Pop. Sci. Mo., Vol. 23. p. 597.
"Study in Mental Statistics," Jastrow.

"Mental Association Investigated by Experiment, Cattell & Bryant, Mind, vol. 213, p. 230.
"Mental Imagery, Inquiries into Human Understanding," Francis Galton.
"Tenacity of Childish Errors," Little's Living Age, vol. 202, p. 62.
"The Imagination of Children," C. F. Jacox, Cues.
"The Contents of Children's Minds on Entering School," G. S. Hall, Ped. Sem. vol. 1, No. 2.
"Growth of Memory in School Children," Bolton, Am. Jour. Psy. vol. 4, p. 919.
"Children's Drawings," Earl Barnes, Ped. Sem., vol. 2, No. 3.
"Children's Expression Through Drawing," M. V. O'Shea, Add. and Proc. N. E. A., 1894.
"Constitutional Bad Spellers," Adelaide E. Wycoff, Ped. Sem., vol. 2, No. 3., and Add. and Proc. Intern. Cong. of Ed., Chicago, 1893.
"Contents of Children's Minds," G. S. Hall, Sci., vol. 10, p. 204.
"Observation and Study of Movement in Mental Status," Francis Warner, Add. and Proc. Intern. Cong. of Ed. '93.
"Report on Eye and Ear-mindedness," W. L. Bryan, Add. and. Proc. of Intern. Cong. of Ed. 1893.
"Mental Waste and Economy," G. T. W. Patrick, Add. and Proc. of Intern. Cong. of Ed., 1893.
"The Dominent Seventh in Education," Miss. H. E. Hunt, Add. and Proc. of Intern. Cong. of Ed., 1893.
"Diseases of Memory," Ribot, N. Y. 1880.
"Story of a Sand Pile," G. S. Hall, Scribner's Mag. June, 1888.
"Growth and Means of Training the Mental Faculty," Warner, N. Y. 1890.
"A Statistical Study of Memory and Association," Jastrow, Ed. Rev. vol. 2. p. 242.
"Test of Children as Evinced by their Powers of Observation," Mrs. S. Bryant, Jour. of Anthropol. Inst. Feb. '68.
"The Clever things said by Children," H. Paul, London. '82.
"Exceptional Children in School," Ed. Rev. vol. 6, 431.

VI. Emotional Development.

"Theological life of a California Child," Earl Barnes, Ped. Sem. vol. 2, No. 3. and Add. and Proc. Of the Intern. Cong. of Ed. '93.
"Expression of the Emotions in Men and Animals," Charles Darwin.
"Bashfullness in Children," J. M. Baldwin, Ed. Rev. vol. 8, p. 434.
"Dreaming and Poetic Invention," James Sully, Add. and Proc. of Intern. Cong. of Ed. '93.
"Happiness of Children," Spectator, vol. 68, p. 331.
"Children's Love of Nature," W. A. Hoyt, Add. and Proc. of N. E. A. 1894.
"Feelings and Ideas of Sex in Children," Earl Barnes Ped. Sem. vol. 2, No. 2.
"Sex in Education," J. C. Brown, Ed. Rev. vol. 4, p. 164.

VII. Volitional Development.

"Habit and its Importance in Education," Radestock, Boston, 1886.
"Imitation in Children," Ellen M. Haskell, Ped. Sem. vol. 3, No. 1.
"Counting out Rhymes of Children," H. C. Bolton, Jour. Am. Folklore. April and June, 1888.
"Experiments in Testing the Character of School Children," Mrs. S. Bryant. Jour. of the Anthropological Institute, vol. 15. p. 338.
"Children's Lies," G. Stanley Hall. Ped Sem. vol. 1, no. 2. and Am. Journal of Psych, vol. 3, p. 59.
"Ethical Contents of Children's Minds," F. W. Osborn, Ed. Rev. vol. 8, p. 143.
"Rights of Children," Kate D. Wiggin, Scribner's Mo., vol. 12, p. 242.
"Rights of Children," Siegvolk, Papers.
"Children's Rights," Kate D. Wiggin, Boston 1892.
"Rights of Children," M. J. Savage, Arena, vol. 6. p. 8.

"A Study of Children's Rights as Seen by themselves," Margaret E. Schallenberger, Ped. Sem. vol. 3, No 1.
"A Record of Virtue," Century Mag. vol. 19, p. 238.
"Origin of Volition in Childhood," J. M. Baldwin, Sci. vol. 20, p. 286.
"Rudimentary Society Among Boys," J. Johnson, Overland Monthly, Oct. 1885, and in John Hopkins "University Studies" in Hist. and Pol. Science, Vol. 2.

VIII. SPECIAL SENSES.

"The Hearing of Children," Chrisman, Ped. Sem. vol. 2, No. 3.
"Experiments on the Musical Sensitivness of Children," Gilbert, Studies from the Yale Psychological Laboratory, vol. 1, p. 80.
"Eye Tests on Children," G. M. West, Am. Jour. Psy. vol. 4, p. 395.
"Color Sense, Its Origin and Development," G. Allen, London, 1879.
"On the Color Vocabulary of Children," H. Wolfe, Univ.of Neb. Studies, July, 1890.
"The Theory of Color," W. Von Bezold, 1876, Prang & Co.
"Student's Text Book of Color," O. M. Rood, Appleton, 1890.
"Defective Vision in School Children," S. D. Risley, Ed. Rev. vol.3, p. 348.

IX. SCHOOL HYGIENE.

"Outlines of School Hygiene, W. H. Burnham,Ped. Sem. vol. 2, No. 2.
"Fatigue," F. B. Dresslar, Ped. Sem. vol. 2, No. 1.
"Studies in Fatigue," Moore, About to appear in studies from Yale Univ., vol. 3.
"Remarks on Replies by Teachers to Questions Respecting Mental Fatigue," Fr. Galton, Jour. Anthro. Institute, 1888, p. 157.
"Hygienic Advice for Homes," Sweden, 1893, Trans. for Ped. Sem.
"Remarks on the Influence of Mental Cultivation and Mental Excitement upon Health," A. Brigham. London, 1874.
"The Effects of Student Life upon the Eyesight," Circulars of the Bureau of Ed., No. 6, p. 29.
"Brain Exhaustion," J. L. Corning, New York, 1884.
"Adolescence," J. M. Fothergill, in the Physiologist and the Household, Part 1, London, 1880.
"The Maintenance of Health," Fothergill, New York, 1879.
"Bilateral Symmetry of Function," G. S. Hall and E. M. Hartwell, Mind, vol. 9, pp. 99–101.
"Hygiene of the Brain," M. L. Holbrook, New York, 1884.
"Tendency of Misdirected Education and the Unbalanced Mind to Produce Insanity," Edward Jarvis.
"Report of the Examination of 27,927 Children for Color-Blindness," Boston, 1880.
"Health and Education," C. Kingsley, New York, 1894.
"School Hygiene," Lincoln, Boston, 1885.
"The Book of Health," Morris, London, Paris, New York, 1883.
"Physical Education or the Health Laws of Nature," Felix L. Oswald, New York, 1882.
"Mental Hygiene," I. Ray, Boston, '63.
"Study and Stimulants," A. A. Reade, Manchester, '83.
"An Essay on the Systematic Training of the Body," C. H. Schaible, London, '78.
"Emotional Prodigality," C. F. Taylor, From the Dental Cosmos., July, 1879.

X. DEVELOPMENT OF LANGUAGE.

"Titian, a Study of Child Language," D. A. Machado, Y. Alvarez, Trans. Philol. Soc. London, 1885–1887.
"The Speech of Children," A. Stevenson, Sci. Mar. 3, 1893.
"Child Speech and the Law of Mispronunciation," Edw. Noble, Educ., Sept. and Oct. '88.
"Aphasia and Localization of the Faculty of Speech," F. Bateman, London, '90.
"On Aphasia," J. Ross, London, '87.

"The Development of Speech in Infants," W. D. Canfield, Babyhood, May. 1887.
"How Children Learn to Talk," E. A. Kirkpatrick, Sci., Sept. 25, '91.
"Origin of Languages and the Antiquity of Speaking Man," H. Hale, Am. Assn. for Advancement of Science, vol. 35.
"Baby Linguistics," J. Sully, Eng. Illus. Mag., Nov. '84
"Notes on the Development of a Child's Language," Mrs. M. A. Allen, Mother's Nursery Guide, Feb. 1893.
"Language of Childhood," F. Tracy, Am. Jour. Psy. Vol. 6, p. 107.
"Acquisition of Language by Children," H. Taine, Mind. vol. 2, p. 252.
"The Infant's Progress in Language," F. Pollock, Mind, Vol. 3, p. 392.
"The Language of Children," F. Tracy, Add. and Proc. Intern. Cong. of Ed., Chicago, '93.
"On the Vocabularies of Children Under Two Years of Age," E. S. Holden, Trans. Am. Phil. Assn., 1887, p. 58.
"The Psychology of the Language of Children," J. Dewey, Psychological Review, vol. 1, p. 63.
"Hearing Language, Reading, Speech and Writing, Modes of Expression. Unity of Expressive Act," In "Talks on Pedagogics," F. W. Parker, New York, '94.
"Life and Growth of Language," Whitney, D. Appleton & Co.
"The Child's Vocabulary," A. Salisbury, Ed. Review, vol. 7, p. 467.
"A Contribution to Infantile Linguistics," W. Humphreys, Trans. Am. Phil. Assn. 1880.
"Speech and its Defects," Sol. Potter, Philadelphia, 1882.
"The Psychology of Infant Language," J. Dewey, Psychological Review, Jan. '94.
"Secret Language of Children," O. Chrisman, Science, vol. 22, p. 303.
"The Vocal Sounds of Laura Bridgman," F. Lieber, Smithsonian Contributions, vol. 2.
"The Progress made in Teaching Deaf Children to Read Lip Talk, in the United States and Canada," Science, Aug. 26, 1892.
"Sign Language among the North American Indians," G. Mallory, Report of the Bureau of Ethnology, 1879-80.
"Notes on Indian Child Language," A. F. Chamberlain, Am. Anthrop., July, 1890.

XI. Life and Growth of Infants.

"First Three years of Childhood," B. Perez, London, 1889.
"Notes on an Infant," Champneys, Mind, vol. 6, p. 104.
"Babies and Science," J. Sully, Cornhill Mag., May, 1881.
"The Baby's Mind," Eliz. S. Brown, Babyhood, July to Nov., 1890.
"Papers on Infant Development," Mrs. E. Talbot, Educational Depart. Am. Social Sci. Assn., Boston, 1882.
"Record of Infant Life," Tiedeman, Syracuse.
"Infants, Their Chronological Progresses," Stanford E. Chaillé, New Orleans Medical and Surgical Journal, June, 1887.
"Suggestion in Infancy," J. M. Baldwin, Science, Feb. 27, '91.
"Jealousy in Infants," A. Stevenson, Science, Oct. 28, 1892.
"Infantile Grief," Dr. J. M. W. Ritchen, Babyhood, June, '92.
"Conscious Motherhood," E. Marwedel, Boston, '89.
"Elementary Training of Infants," W. E. Leonard, Babyhood, March, '90.
"A Mother's Journal," M. A. Allen, Babyhood, March, '85.
"Infant Study in the Class Room," Adelaide E. Wycoff, Ped. Sem., vol. 2, No. 3.
"One Year with a Little Girl," O. Chrisman, Ed. Rev., vol. 9, p. 52.
"Notes on the Study of Infants," G. S. Hall, Ped. Sem., vol. 1, No. 2.
"Notes on the Development of a Child," Miss M. W. Shinn, Berkeley, Cal., 1893.
"The First Two Years of a Child," Miss M. W. Shinn, Add. and Proc. of Intern. Cong. of Ed., Chicago, 1893.
"Mental Aspects of Infantile Unfoldment," Med. and Surg. Reporter, Phil. '82, vol. 26, p. 309.

"Development of Children, Darwinism in the Nursery," L. Robinson, Pop. Sci. Mo., vol. 40, p. 674.

XII. Social Aspects of Child-Study.

"American and European Laws on Children," Mass. Labor, 1878.
"Legal Aspect of the Child-Problem," F. Wayland, Charity Review, vol. 2, p. 249.
"Dependent Children," C. H. Reeve, National Prison Assn., 1888.
"Children in Factories," H. K. Oliver, Mass. Labor, 1871, p. 487.
"Child-Slavery in America," A. P. Stevens, A. L. Woodbridge, T. E. Will, Arena, vol. 10, p. 117.
"Neglected Children," J. Bone, et al. Trans. Soc. Sci., Lond. 1880.
"Legal Rights of Children," U. S. Bureau of Ed. Circ., 1880, No. 3.
"American Childhood from a Medical Standpoint," H. L. Taylor, Am. Jour. Soc. Sci., vol. 30, p. 44.
"Children as Gatherers of Food and Fuel," A. R. Buckland, Sund. Mag., vol. 23, p. 515.
"Children and Parents," R. F. Horton, Sund. Mag., vol. 23, p. 596.
"Children and Friends," Chambers' Journal, vol. 71, p. 113.
"Home Environment of Children," B. O. Flower, Arena, vol. 10, p. 483.
"Children on the Stage," A. Hornblow, Mumpsey, vol. 12, p. 32.
"Prevention of Cruelty to Children," B. Waugh, Dublin Review, vol. 110, p. 140.
"Children of the Poor," J. A. Riis, Scrib. Month., vol. 11, p. 531.
"Children of the Poor," J. B. Devins, Charity Rev., vol. 2, p. 170.
"Child Laborers and Their Protection in Germany," W. Steidra, Chaut., vol. 18, p. 88.
"New York Children," Review of Reviews, vol. 4, p. 689.
"Problem of Children in Cities," J. H. Finley, Rev. of Revs., vol. 4, p. 683.
"Child Saving," C. D. Randall, Lend-a-Hand, vol. XI, p. 363.
"Social Responsibility Toward Children," A. G. Spencer, Lend-a-Hand, vol. XI, p. 105.
"Unborn Children and Their Rights," T. F. Utley, Am. Law Rev., vol. 26, p. 50.
"Too Many Children," K. G. Wells, North Am. Review, vol. 159, p. 254.

TRANSACTIONS OF

THE ILLINOIS SOCIETY FOR CHILD-STUDY

EDITED BY
C. C. VAN LIEW
Secretary of the Society

CHICAGO NEW YORK
THE WERNER COMPANY

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The PRESIDENT and the SECRETARY-TREASURER.

AUDITING COMMITTEE.

The PRESIDENT and the SECRETARY-TREASURER.

REPORT OF THE SECRETARY-TREASURER.

Report of the Second Annual Congress of the Illinois Society for Child-Study.—The second annual congress of the Illinois Society for Child-Study was opened on the 16th of May, 1895, at 8:15 P. M., by Pres. A. S. Draper, of the University of Illinois. A fair audience was in attendance. In his hearty words of welcome, President Draper referred to the changes that had taken place, since he himself was a school boy, in the attitude of the teacher toward the pupil, pointing out that the tendency to-day is strongly toward a more and more complete and efficient recognition of what the child is, in the work of his education. The opening address of the evening was delivered by the president of the society, Col. Francis W. Parker, of the Cook county Normal School. Colonel Parker spoke on the historical development of educational movements. The central thoughts of his discourse may well be taken as constituting at least a part of the creed of the Illinois Society for Child-Study. They were, first, that the great value of history lies in the fact that in general it gives the direction of movement in development and progress. Second, that the test of any principle in educational practice is the degree to which it approximates infinity of application. Third, that the educational movement of the present, as seen in the history of education since the times of the Reformation, points to the fact that the teacher of the future must be able to diagnose the child physically, mentally, and morally, and that it is this power of diagnosis which will render the teacher efficient in prescribing for the child's needs and comforming to his capacity for development. At the close of his address President Parker introduced Supt. S. T. Walker, of the State School for the Deaf and Dumb, who addressed the assembly upon the instruction of the Deaf. The paper read by Dr. Walker was very valuable and interesting and was followed by some

discussion of the points it brought out. Among others, the audience was very grateful for the privilege of listening to some remarks by Miss Mary McCowen, principal of the McCowen Oral School, and an expert in teaching deaf mutes to talk. The meeting adjourned at 10:15 P. M.

The following day, May 17, a second session of the congress was called to order at 8:45 A. M. The programme was opened by Supt. C. W. Minard, of Maywood, Cook county, who explained some of the work in Child-Study undertaken by his teachers. The report of Superintendent Minard, which appears elsewhere in this publication, aroused some questions and discussion on the part of the audience. All of the points which were brought out in the discussion appear also in his published report. Superintendent Minard was followed by Dr. W. O. Krohn, of the University of Illinois, who explained and illustrated the method of making anthropometrical investigations upon children. After further investigations and questions on the part of the audience, he was followed by Dr. C. C. Van Liew, of Normal, who spoke upon "Child-Study for the Practical Teacher." Dr. A. M. Miller, Superintendent State School for Feeble Minded Children, then read a very interesting address upon the "Study of Abnormal Psychology as an aid in Training Abnormal Children." Mrs. Lida B. McMurry, of Normal, Ill., then read a very interesting paper, which appears elsewhere in this publication, upon "Child-Study through the Medium of the Parents." The paper called forth some discussion and was followed by brief reports from Mrs. W. S. Jackman and Miss Anne Allen, of Englewood, upon the work of the Round Tables with which they were connected. The reports simply showed that the Round Tables had been organized and were ready and anxious to undertake the work. The session adjourned at 12:30 after accepting the report of the committee on nominations and instructing the secretary to cast the ballot for the officers of the preceding year as recommended by the committee.

The third session of the congress was called to order at 1:30 P. M. by W. O. Krohn, chairman of the executive committee, who read a paper on "The Most Critical Period of School Life." President Parker then introduced Prof. C. A. Thur-

ber, of Colgate Seminary, Hamilton, N. Y., who, as representing the interests of the Child-Study movement in New York State, had come to be present at this meeting of the Illinois Society for Child-Study. Professor Thurber spoke briefly. He stated that the movement at that time was some three or four weeks old in New York but that it was enjoying from the beginning the support of the State Department of Public Instruction, which was furnishing free printing and paying for a competent instructor. As yet, the speaker stated, there exists in the State of New York no special organization for the work of Child-Study. The work is being carried on entirely through the publications which the State Department of Public Instruction is issuing and distributing from time to time and through the work of the paid institute instructor with the teachers of the state in their various meetings. The final speaker on the programme was Dr. Bayard Holmes, of Chicago, who addressed the congress very briefly but originally, striking at some of the most conspicuous faults of the common school through his apt allegory of the "School of Savagery." The session closed at 3 P. M.

At a meeting of the executive committee, the following persons were added to the executive committee: Dr. Cornelia DeBey, of Chicago, Dr. John Dewey, University of Chicago, Supt. Frank H. Hall, Waukegan, Prof. Hans Ballin, Carbondale.

The reports of the secretary and treasurer were also read and adopted. These reports brought down to date are:

Report of Membership and Round Tables.—The membership of the Illinois Society for Child-Study is at present 581, distributed as follows: Illinois 498, New York 8, Wisconsin 6, Indiana 5, Michigan 7, Minnesota 6, Colorado 6, Ohio 4, Pennsylvania 5, Kentucky 3, Iowa 4, Washington 4, California 3, Nebraska 2, Kansas 5, Massachusetts 3, Utah 1, South Carolina 1, Oregon 1, New Hampshire 1, New Jersey 2, Arizona 1, Rhode Island 1, Toronto, Can. 1, Cape Colony, South Africa 1, Tokio, Japan 1, Scotland 1.

There have been thus far fully organized seven Round Tables as follows: No. 1. "The Krohn Round Table," Chenoa, 8 members; Anthony Middleton, president. No. 2. "The Graham

School Child-Study Round Table," Chicago, 14 members; W. E. Watt, president. No. 3. "Cook County Normal School Kindergarten Round Table," 7 members; Anne E. Allen, president. No. 4. "The McCowen Oral School Round Table," 10 members, Chicago; Mary McCowen, president. No. 5. "Normal Park R. T.," 13 members; Mrs. W. S. Jackman, president. No. 6. "Downer's Grove Child-Study Round Table," 7 members; J. K. Rassweiler, president. No. 7. "The Longwood Round Table" (no report).

Report of Finances.—(Including the first annual statement for the year, May 15, 1894, to May 15, 1895, and the five months from May 15, 1895, to Oct, 15, 1895.)

RECEIPTS.

Membership and charter fees		$587.00
Sale of publications		79.50
		666.50

EXPENDITURES.

Printing and stationery	$46.48	
Apparatus	43.40	
Post., exp., dray., telegraphing, etc.	82.11	
Publication	238.72	
Clerical work and legal fees	56.37	
Railroad expenses and sundries	28.13	
	$495.21	
Balance cash on hand Oct. 15, '95,	171.29	$666.50

Sundry Items.—Since the last congress of the Illinois Society for Child-Study, the work of the society has received a marked impetus through the efforts of State Superintendent of Public Instruction, Hon. S. M. Inglis, who, on August 24, 1895, issued, in behalf of the Illinois Society for Child-Study, Circular 6 "Regarding Child-Study," a copy of which has been sent to each member with the request to use it in interesting others in the work. The society herewith extends its thanks to the State Superintendent for his valuable assistance in its behalf. Without doubt the support which he has given to the work of the society will be productive of good to the school children of the state.

Notice is hereby once more extended to members of the society and especially to the Round Tables, that they are re-

quested to nominate for the consideration of the executive committee, suitable persons as members of the Advisory Board. It is the intention that these members of the Advisory Board be appointed in every locality in which the work of Child-Study is being carried on. They should be persons who are more or less interested in the care and training, either physical or intellectual, of children; they should be persons to whom active workers in Child-Study can refer for assistance and guidance. They will therefore preferably be selected from among the ranks of prominent educators, professors of experimental psychology, neurologists, teachers of the defectives (deaf, dumb, blind, feeble-minded, etc.), physicians interested in children's diseases and teachers and kindergartners that have had long and successful experience. The society aims in time to have these appointed members of the Advisory Board in every section of the state, and it will have to rely, to a large extent, upon the acquaintanceship of its members for suitable nominations.

Members are again requested to notify the secretary and treasurer of any change in their address. It is the intention of the secretary that each member of the society shall be supplied promptly with the publications of the society as soon as they appear. And in order that no delay shall occur members should keep the secretary well informed of changes in their places of residence.

The Illinois Society for Child-Study can truthfully say that it has already stimulated among the teachers of the state new and more fruitful observation upon the characteristic development of children; yet it is equally true that a great many who could do so do not think it worth while to *report* a great deal that they observe. The executive committee urges each and every member to contribute to the data of Child-Study by reporting whatever they may observe, as it is only in this way that an abundance of valuable material can be collected. It is to be hoped also that each member will take an active interest in the success and growth of the society. The society aims to get its literature into the hands of as many teachers of the state as possible and to do so at the least possible expense to each teacher. In order to meet the

expenses of publication and at the same time to furnish copies of each publication to all of the teachers at the least possible cost, the society will need to extend its membership beyond what it has already reached. Those who are already members can be of very great assistance by enlisting the interest of their friends in the work. Apply to the secretary for circulars if you need them. Let us all have the work and success of the society truly at heart.

Other Fields.—There comes constantly to the office of the secretary evidence that the work of Child-Study is rapidly taking hold of the educational work at large. The Illinois Society for Child-Study was probably the first large organization to attempt the propaganda and work of Child-Study on a large scale. For this reason, undoubtedly, as will be seen from the report as to membership, its members are to be found all over the United States and even in foreign countries, and its literature has had a wide sale. It has not yet accomplished all that it is seeking to do, but it has thus far at least spread a knowledge of Child-Study labors, and stimulated an interest in its cause. In this work, it is glad to greet the organization of several other similar associations and to give expression to the hope that it will find opportunity to coöperate with them in the effort to realize a common aim, a more perfect knowledge of child nature and development and, growing out of this, a greater degree of perfection in the science and art of education. Our community of interests and efforts, therefore, may make some notice of one another's work desirable.

The South Carolina Association for the Study of Children was formed at the meeting of the State Association at Spartanburg, in July, 1894. At present the society has no constitution nor by-laws. Its officers consist merely of an executive committee whose chairman acts as co-ordinator of Child-Study data collected, and who reports for the committee at each meeting of the State Teachers' Association. The executive committee consists of, chairman, Thomas P. Bailey, Jr., formerly of Marion, S. C., now of the University of California, Berkeley, Cal.; secretary, Mrs. W. Schleppegrell Keppler, Froebel Academy, Charleston; Patterson Wardlaw, S. C. College, Columbia; Miss Annie E. Bonham, Winthrop Train-

ing College, Columbia; E. L. Hughes, Greenville, S. C. "The association hopes soon to become associated with a Child-Study section of the State Teachers' Association, with the South Carolina Kindergarten Association, and with other organizations." (See "Bulletin No. 1," Bibliography.)

The British Association for Child-Study was formed in the summer of 1895 in connection with the Edinburgh summer meeting. It is in a measure the result of the work done at the International Educational Congress held at Chicago in the summer of 1893, during the great World's Fair. One department of that congress was devoted entirely to the subject of Child-Study and many English and Scotch teachers were impressed to find how much attention was given by a large body of American educators to the study of children.

A great many of these English and Scotch teachers continued to inquire into the subject, at first through its literature, and, taking advantage of the presence of a number of people interested in education, at the Edinburgh summer meeting in August, 1894, they gave an account of the movement as it had come under their notice and urged its claims on the attention of parents and teachers. The result was an immediate and cordial response from the different educational classes and the formation of the association for Child-Study, later termed, "The British Association for Child-Study." At present there are three branches of this association. Two or three members are selected from each branch to act as a general committee for managing the affairs of the whole association. The Edinburgh branch meets once a month for the discussion of papers on the various phases of child development and for the study of works relating to the development of children. The honorable secretary and treasurer is Miss M. A. Clapperton, 2 Granton Road, Edinburgh. The Cheltenham branch (Miss Louch, of the Ladies' College, honorable secretary and treasurer) meets twice during each college term, its work being carried on much as in the preceding instance. The London branch (honorable secretary and treasurer, Miss Crees, Headmistress, Montem St. School, London, N.) has met monthly since November. The later branch numbers among its members Prof. James Sully, the well-known

psychologist. The society has already published two small pamphlets setting forth the history and aims of its work. Among other labors the association is engaged upon a collection of the literature of the subject which shall be accessible to its members upon application to the secretary. The regular member's subscription is one shilling.

The Department of Public Instruction (Charles R. Skinner, Superintendent), of the state of New York, has undertaken to inaugurate the work in that state, and as already mentioned in the minutes of the last meeting of the Illinois Society for Child-Study, is at present carrying on the work without any special association. Superintendent Skinner has appointed Chas. H. Thurber, of Colgate University, Hamilton, N. Y., director of the Child-Study Division of the State Department, and Miss Anna K. Eggleston as institute lecturer in Child-Study. The first publication of the department is Document No. 1 "Hints on Child-Study," prepared by Mr. Thurber, which suggests some very practical and interesting lines of observation for the teacher, closing with a well selected bibliography of Child-Study. Mr. Thurber has also prepared a brief syllabus suggesting a plan of study on "Children's Hopes," which he desires to have undertaken by the teachers of the state at large so that all may be engaged upon at least one common line of thought. The state department also furnishes blanks upon which teachers may make returns of special observations.

The Iowa Society for Child-Study was organized at Des Moines, Ia., Dec. 27, 1894. The following officers were elected at that time:

President—Supt. H. E. Kratz, Sioux City.

Secretary—Supt. O. C. Scott, Oskaloosa.

Treasurer—Supt. C. P. Rogers, Marshalltown.

The organization is the result of a year's agitation in this line of work in the state of Iowa and of a preliminary meeting held on the 26th of December last, at which time a committee on organization was appointed. The report of this committee and the history of this inauguration of the Iowa Society for Child-Study, is to be found in Circular of Information No. 2, issued by the State Department of Public Instruc-

tion, Henry Sabin, Supt. Upon the suggestion of this committee the Iowa State Society is now undertaking the following studies: Study 1. Eye-Mindedness and Ear-Mindedness. 2. Height and Weight of School Children. 3. Temperament in Education. 4. Individual Characterization. The aforesaid pamphlet closes with an excellent Bibliography of Child-Study.

In addition to the societies above mentioned that have already been fully organized, an active correspondence is now being carried on in the states of Minnesota and Michigan, looking toward the formation of Child-Study associations in those states. California and Indiana, under the leadership respectively of Prof. Earl Barnes and Dr. Wm. L. Bryan, are also especially well advanced in the practical work, though they have, as yet, no State Associations. The Illinois Society for Child-Study wishes its younger sisters the utmost success in the new work.

C. C. VAN LIEW,
Secretary-Treasurer.

NORMAL, ILL., *October, 1895.*

CONTRIBUTIONS TO THE TRANSACTIONS.

The contents of this, the third and last number of the *first* volume of the Transactions of the Illinois Society for Child-Study, presents attractive and essential additions to the two preceding numbers. The first two contributions to this number will give the reader some idea of what is being done in two fields of labor in Illinois. It is only to be regretted that more who are doing the work do not appear in this report. Superintendent Minard's paper gives us an idea of one way in which Child-Study may be made to meet the practical requirements of everyday school-work and yet touch the teacher into completer harmony with her pupils. Mrs. McMurry testifies from experience to the great value of the "Questions to Parents." (See Handbook.) Professor Barnes, who has long been known, not only on the Pacific Coast, but all over this continent, as one of the most earnest and efficient promoters of Child-Study, especially as bearing upon the work of the teacher, offers the readers of this number suggestions and lines of work that will interest thoughful teachers deeply. The Child-Study syllabi, which Dr. Hall has kindly allowed us to reproduce from his series, come with the weight of well-known authority. The society is glad thus to assist President Hall in the collection of data that mean so much in the great work he is undertaking; it is to be hoped that very many, either individually or collectively, will respond to these calls, wherever they have material to offer. It matters not how slight your response, it is welcome. The article on School-Hygiene by Dr. D. F. Lincoln, of the University of N. Y. City, supplies a long-felt want; the salient points of School-Hygiene should be known to every teacher. Dr. Lincoln has been a careful student of this subject and speaks from long investigation and experience. The number closes with a continuation of the bibliography begun in the Handbook. It is the purpose of the undersigned to continue these references in future numbers.

C. C. V. L.
Sec.-Treas.

CHILD-STUDY IN MAYWOOD.

At the suggestion of the secretary of the State Society for Child-Study the following report is given somewhat more in detail than when presented verbally before the society in May last.

For several years the need had been felt for a more careful study of each pupil than had been given, and from time to time suggestions were made and brief reports of a general character prepared by the teachers at the close of each term. Such reports were, however, unsatisfactory, and the present ones named below are far from completeness. The following slip was prepared for the purpose of giving something definite for teachers to work toward; not that it is complete or entirely suitable for the object in view, but as a definite beginning. Enough copies were furnished each teacher so that, should she have the willingness and ability, she might report for each pupil under her care. This was not made obligatory lest it should prove too burdensome for some teachers.

Date. *Name.* *Age.*

Physical Notes.

Height.....Weight.....

Right or Left Handed.....

Chest Measure { Lungs full..... " empty.....

Eyes { Color ..... Visual Distance { Right..... Left.....

Hair { Color.... ... . Texture .....

Indications of Tubercular Affections.....

.....

Habit of Sitting.....

" Standing.....

Deformities.....

Peculiar Habits.....

Mental Notes.

Power of Attention.....
- Observation.....
- Memory.....
- Recollection.....
- Apperception.....
- Imagination-form.....
- Reason.....
- Judgment.....
- Volition.....
  - Self-control.....
  - Perseverance.....
- Oral Expression.....

Courage, expressed how.....
Pride.....
Temper.....
Temperament in general.....
Affections { Egoistic..... / Altruistic.....
Originality in Thought.....
Rapidity of Thought.....
Carefulness.....
Motive in school work.....
Purity of Mind.....
☞(Place other remarks on back of this card.)
.....TEACHER.

Before undertaking the work the teachers met and each topic was explained, with instructions as to how to proceed. First of all, it was suggested that a beginning be made with some pupil with whom the teacher was best acquainted; then, after some familiarity with the method was secured, other pupils could be more easily studied.

In the case of physical measurements the time was left to the convenience of the teacher, not, however, to the detriment of the regular work. In obtaining the weight of pupils an ordinary set of scales, such as is found in every meat market, was used. A yard-stick and the door-casing were employed in ascertaining heights. A tape measure passed around the body under the arms over any ordinary clothing was accepted as chest measure. Where the visual distance was obtained Snellen's test cards were used. Attention was tested at different times, and an average found, expressed in minutes. Other topics were reported on from the teacher's observation of the child. Teachers frequently came and talked over

individual cases which were difficult for them to decide. In some cases they were left undecided.

These reports were not made until April, after the teachers had observed the children for several months, and had made one general report in December. The slips were placed in the hands of the teachers four weeks before they were called in. The teachers had been prepared for such work by nearly two years of pedagogical study, indicated by Dr. Charles McMurry's General Method and Col. F. W. Parker's Talks on Pedagogics. This study was carried on in regular meetings in which all took part by question and discussion. All, too, were teachers of experience or careful professional training or both. This statement is not made for the purpose of discouraging anyone from undertaking such work for lack of preparation, but to emphasize the truth that the times demand teachers professionally trained, and it is a pleasing outlook that our normal schools are raising their standards for admission and that authorities are demanding trained teachers.

As an illustration of what was done, a transcript of several reports, taken as representing an average of all, is given below.

Date, March, 1895. *Name, K. R. (girl).* *Age, 7 3-4.*

Physical Notes.

Height, *3 feet 10 inches*; Weight, *50 lbs.*
Right or Left Handed, *right.*
Chest Measure { Lungs full, *25 in.*
" empty, *23 1-2.*
Eyes { Color, *gray.*
Visual Distance { Right.....
Left .....
Hair { Color, *light Brown.*
Texture, *fine.*
Indications of Tubercular Affections.....
.....
Habit of Sitting.....
" Standing.....
Deformities.....
Peculiar Habits.....

Mental Notes.

Power of Attention, *fifteen minutes.*
Observation.....
Memory, *strong.*
Recollection, *strong.*
Apperception.....
Imagination-form.....
Reason.....
Judgment, *good.*
Volition.....
Self-control, *weak.*
Perseverance, *excellent.*
Oral Expression, *good.*
Courage, expressed how.....
Pride.....
Temper, *quick.*
Temperament in general, *sanguine.*
Affections { Egoistic, *weak.* / Altruistic.....
Originality in Thought.....
Rapidity of Thought, *quick.*
Carefulness, *well developed.*
Motive in school work.....
Purity of Mind.
☞(Place other remarks on back of this card.)

M. A. W., TEACHER.

Date, Apr., '95. *Name, E. O. (girl).* *Age, 10.*

Physical Notes.

Height, *4 ft 7 in.*, Weight, *80 lbs.*
Right or Left Handed, *right.*
Chest Measure { Lungs full, *27 in.* / " empty, *25 in.*
Eyes { Color, *light blue.* / Visual Distance { Right. / Left.
Hair { Color, *yellow.* / Texture, *medium.*
Indications of Tubercular Affections.
.....
Habit of Sitting.....
" Standing.....
Deformities.....
Peculiar Habits.....

Mental Notes.

Power of Attention, *fifteen minutes.*
Observation, *dependent.*
Memory, *poor.*
Recollection, *weak.*
Apperception.....
Imagination-form.....
Reason, *undeveloped.*
Judgment, *undeveloped.*
Volition, *weak.*
Self-control, *strong.*
Perseverance, *weak.*
Oral Expression.....
Courage, expressed how.....
Pride.....
Temper, *mild.*
Temperament in general, *sanguine.*
Affections { Egoistic..... Altruistic.....
Originality in Thought, *weak.*
Rapidity of Thought.....
Carefulness.....

Date, May 1, '95. *Name, W. R. (boy).* *Age, 16.*

Physical Notes.

Height, *5 ft. 1 1-2 in.* Weight, *99 lbs.*
Right or Left Handed, *right.*
Chest Measure { Lungs full, *30 in.* " empty, *27 in.*
Eyes { Color, *blue.* Visual Distance { Right..... Left.....
Hair { Color, *light brown.* Texture, *fine.*
Indications of Tubercular Affections, *none.*
.....
Habit of Sitting, *erect.*
" Standing, *firm.*
Deformities, *none.*
Peculiar Habits, *none.*

Mental Notes.

Power of Attention, *good.*
Observation, *good.*
Memory, *fair.*
Recollection, *fair.*
Apperception, *slow.*
Imagination-form, *constructive.*
Reason, *good.*
Judgment, *good.*
Volition.....
Self-control, *good.*
Perseverance, *good.*
Oral Expression, *good*:
Courage, expressed how.....
Pride.....
Temper.....
Temperament in general, *phlegmatic.*
Affections { Egoistic..... / Altruistic, *altruistic.*
Originality in Thought, *good.*
Rapidity of Thought, *slow.*
Carefulness, *fair.*
Motive in school work, *utilitarian.*
Purity of Mind.....
☞(Place other remarks on back of this card.)
....TEACHER.

Summaries of reports on attention only will be given as follows:

The period during which the average child could attend to a given line of thought without fatigue was:

At six	years	of	age,	$7\frac{1}{4}$	minutes.
" seven	"	"	"	$10\frac{1}{3}$	"
" eight	"	"	"	$11\frac{1}{2}$	"
" nine	"	"	"	$12\frac{9}{11}$	"
" ten	"	"	"	$15\frac{10}{11}$	"
" eleven	"	"	"	$19\frac{4}{5}$	"
" twelve	"	"	"	$21\frac{1}{14}$	"
" thirteen	"	"	"	$28\frac{1}{3}$	"

At the same time the reports show a close relationship between the power to attend and the power to retain and reproduce. The teacher had very forcibly impressed on her the necessity of so regulating her recitation periods that they would not exceed in length the period during which her pupils would be able to give undivided attention.

Another result, and one which was more than once remarked upon by the teachers, was the very intimate knowledge which this study gave of the pupil to the teacher. Even though these reports are incomplete, their very incompleteness was a spur to at least some of the teachers to learn more by daily study. The best result, though, and the one which is far and away the most valuable, is that the knowledge so gained furnishes a rational basis for advancing pupils from one grade of work to the next higher. These reports, with a statement as to the standing of the pupils in the various studies pursued during the past, furnish the best possible means of judging of the fitness of a pupil for promotion.

C. W. MINARD,
Superintendent.

MAYWOOD, ILL.

CHILD-STUDY THROUGH THE MEDIUM OF THE PARENTS.

A REPORT OF WORK DONE ALONG THIS LINE IN THE PRIMARY DEPARTMENT OF THE ILLINOIS STATE NORMAL TRAINING SCHOOL.

During the present term—spring '95—most of the parents whose children entered our school for the first time were interviewed in regard to the physical condition, habits, and dispositions of these new pupils.

To each an explanation something like the following was made: "We wish as far as possible to become acquainted with your child before having anything to do with him. By knowing him, through what you will be able to tell us, we may be kept from mistakes both in his instruction and in his management."

In all cases the parents have seemed glad to answer the questions put to them, and in a number of instances have thanked us for the interest shown in their children. All seemed to realize that the knowledge imparted would work to the advantage of the little ones.

The parents talked freely, telling many things not asked for, but yet helpful to the teacher.

In one interview I thought perhaps the father had painted in too roseate colors the character of his child, but further acquaintance with the boy led me to believe, with the father, that his boy is about right.

The questions asked were all prepared by Dr. Van Liew. Some of them were so very pointed that I did not feel sure that in all cases I should feel free to use them; but by the time I reached these questions in the interview with the parent, I felt well enough acquainted to propound, without hesitation, those which touched very closely the child's character.

Those questions inquiring after the child's physical condition were asked first, as parents are glad to tell all they know in this field. Through answers to these we learned that, while one of the children began to walk at nine months, two were twice that age when they took the first steps, while the age of the majority of the children was from twelve to fourteen months.

The child that began to walk at nine months began to talk at the same age, while another child was three years old before he attempted to use words, with the exception of "papa" and "mamma". One of the children who began to walk at eighteen months began to talk at thirty months. The greater number of the children were from twelve to fourteen months old when beginning to talk.

One child had been seriously sick with diphtheria, and as a result his speech was affected. This is not, however, noticeable now.

Another had had scarlet fever, resulting in deafness in one ear, and another weakness of which the teacher needed to be made aware.

Another has trouble with one eye.

Another has "worm spasms" about once a year, after which he is unconscious for a day or two.

Only one child sleeps less than ten hours a day, that being the time taken by most of the children for sleep.

Some of the children are occasionally restless at night, but nearly all of them sleep soundly.

One-half the children have dainty appetites, rejecting many kinds of food.

All of the children, excepting one, of the fourteen of whom I am writing, spend much time out of doors, some on the street (although the parents were reluctant to confess this) a few on farms, but most of them in small yards.

All of the children are right-handed.

The following facts were ascertained in regard to the scope of the children's knowledge and their general mental tendencies:

Every child has traveled on the cars.

All are inquisitive.

Only one child had learned to talk both German and English from her mother.

Every child but one knows some songs or poems, and one knows nearly all of Mother Goose. These were learned, in the majority of cases, from hearing older brothers and sisters repeat them.

Much was learned in regard to the dispositions of the children.

Six of the children are bashful, one blushing very easily. In regard to the latter point, several of the parents had never thought to notice.

All but one of the children like to be occupied, and eight finish what they begin. All but five take good care of their property. One boy tears things to pieces to see how they are made.

In regard to the favorite games, these significant facts were learned:—

One child likes to play school, if she can be the teacher; another likes this play, if he may do the whipping. A little girl would rather "yell and kick" than do anything else; and one boy doesn't care to play at all, but likes to look at pictures in books. This is the boy who learned to walk and to talk at nine months.

All but four of the children are quick to decide on a course of action.

Eight are quick-tempered, and four cry easily. One of these is the little girl who does not play out of doors.

Four of the children pout when things do not go to suit them, and one sulks only at times when she is not feeling well.

Four of the children obey readily; two do not always obey. While one obeys his parents promptly, he does not so readily mind other people. The latter fact has been verified by his teachers. Two others obey if they know they must.

Eight of the children are affectionate. One mother said that her little girl is not very affectionate toward her parents, but manifests much attachment for an old couple who live near them. This mother said that she thought it the fault of herself and husband that the child does not show, more than she does, her love for them. They have not been demonstrative toward her.

Another child manifests his love for his mother only.

Another little girl shows but little of the affection she feels for her mother, but toward her aunts, who have cared for the child a great deal, she manifests her love. The mother has been so busy that she has had little time to pet her little girl.

One little boy, who was reported as lacking in an affectionate disposition, seems hungry for sympathy, and looks up for a pat or a smile every time the teacher passes his desk.

Eight of the children know and speak the truth. The other six are not always to be depended upon. One little girl has such a lively imagination that she invents very curious stories, which she relates as facts.

Four of the children are sober usually (one of these is the little girl who does not care to play out of doors); one is "naturally wild," and another "boisterous."

Ten are generous, six of them very much so.

Twelve are kind to animals. One, while kind, is much afraid of them; another likes them, but treats them roughly; another was so rough in his treatment of a kitty that his mother had to give it away.

One-half of the children have had to amuse themselves much of the time. Our little girl who prefers to stay indoors has been entertained much of the time by an elderly couple previously referred to. One child has played on the street with anyone she could find to play with.

The characters of the companions of these children are reported as being good in eleven cases, questionable in one, bad in two.

Six of the children agree well with brothers, sisters, and playmates. One agrees well with all his playmates excepting his sisters.

Much could be said as to the value of this kind of work to both parent and teacher, as well as child, but I shall give but a single illustration of one effect upon the teacher.

At the beginning of the term I admitted a little boy to our school who was considerably under school age, with the understanding that, if we found him too immature to do the work, the mother should remove him at once when I should

so request. The negotiations were carried on through a friend of the mother. I had not met the latter.

The boy did not do well at first, and one after another of the teachers complained of his lack of attention. Some felt sure that he could not learn.

I sent for the mother, not, however, with the intention of asking her to remove her boy, but to learn more of him. I found out from her the following facts regarding him: He has been much on the street, and has had a number of bad companions. He was devotedly attached to an older sister, who had cared for him much of the time from babyhood. Recently she had married and left home, and the boy was very lonely without her.

He does not agree very well with his younger sisters. He is quick-tempered, and cannot always be depended upon to speak the truth, and does not obey very readily.

In his father's shop he has met many men who tease him. This he cannot endure. They also give him pennies for candy. Now, if the pennies are not given him, he is inclined to ask for them, though his parents strongly disapprove of this.

But this boy is very generous, and is kind to animals, especially to dogs and cats, fighting for them if necessary, and towards his favorite sister he showed much affection.

As the mother talks freely of her boy and her fears for him, I mentally and heartily decide that he shall be helped in every way possible, by our school. I have no desire to have him removed. He is now becoming interested in his work and is doing *well.* The teacher of the room to which he belongs, said to me last week that she was becoming very much attached to him.

Had I not learned more of that boy than it was possible to learn from him in a short time, he might now be on the street instead of in school, for I should not have had the deep interest in him which I felt from the time I had that talk with the mother.

From this example you will not infer that the fuller acquaintance of the boy's history and surroundings gave the teacher great insight into the best course to pursue in managing the boy. I think the chief advantage to the teacher was in the

awakened sympathy. Sympathy will cause one to think, and plan, and endure when a lack of it would result in sending a child home to stay.

So that among the advantages of child-study carried on through the parents I would give prominence to the effect on the teacher through her increased sympathy.

In the conference with the parents I was struck with the fact that fathers and mothers do not know their little children very well. Frequently the answer would come, "It seems strange, but I never noticed my child in regard to this particular thing," but over and over again some parent would say: "I shall find out about this, and know my child better." I believe that every parent was quickened by this interview to make more of a study of his own child. This is no small advantage from this phase of child study.

I am not in favor of carrying on any of this work by the aid of printed questions which the parents are to answer in writing, thereby depriving the teacher of a good opportunity to study the parent and become acquainted with the home influences which surround the child. Parents reveal their own characters unconsciously while talking about their little ones. Thus we hear: "I have whipped and whipped —— for telling things crooked but it seems as if I can't break her of it."

"I am glad you can take my boy for he bothers the life out of me this pleasant weather teasing to go to the neighbors."

"I've tried to teach —— to read at home but he is so dull I can't do a thing with him."

Then, too, I think parents would be inclined to answer questions put to them orally by a sympathetic teacher, more freely than they would answer in writing.

NORMAL, ILL. LIDA B. MCMURRY.

The following partial reports of the results of the questions to parents in the case of another class, is added to indicate more fully the extent and character of the data obtained:

From parents of eleven of the children who entered this term, fall of 1895, the following facts have been gathered:

As to the physical condition of the children—

One child has had serious trouble with his lungs and gatherings on his neck, from the effects of which he is very nervous.

Another had serious lung trouble last winter.

One had grip when three years old, and since that time has attacks of chills and fever, accompanied by severe headache about once a year.

Another had bronchitis when five months old, since which time he has trouble with his throat every time he takes cold.

Another has bladder trouble, which is aggravated whenever the child takes cold.

Another has croup when he gets cold.

One frail-looking little boy fell from a chair when fifteen months old and became paralyzed in his right hand and foot. In consequence, these limbs have withered somewhat. He can stand but a short time without tiring, nor can he use his right hand freely. Strangely enough these facts were not communicated to the teacher until she solicited information about the boy.

All the children but one sleep at least ten hours a day. One sleeps but nine hours and two others sleep twelve.

Most of the children eat heartily of nutritious food. One pale-faced little girl prefers meat to anything else, another child cares most for milk, while another cares only for bread and butter.

All but one child are right-handed.

In regard to the environment and experiences of the child the following was learned:

All play out-of-doors much of the time. One child *runs* always; he cannot walk.

All the children have been on journeys on the steam cars excepting two. All have made trips on the electric street-cars.

Four of the children are not very inquisitive. One of these inquisitive children asks about cars, bugs and lakes. Another asks many questions about God and the Bible.

Another by questioning has learned the name of all parts of a harness. This is a little girl.

Another asks for the reason of almost everything that he notices.

But few of the children had experienced unusual events. The sister of one little boy died two years ago. Another lost a loved grandfather about the same time. Another lost a playmate whom she dearly loved, and a pet dog to which she was strongly attached and whose death she took very hard. A daughter of a minister had witnessed many weddings.

The companions of the children, excepting in one instance, are good.

All but four of the children had learned some little songs or verses before entering school.

As to the dispositions of the children the parents gave us the following:

Four of the children are habitually sober, and the others gay. Four like to tease, the others do not. All but one are generous. Seven are quick tempered. Four cry easily. One of these does not cry from physical pain but from sensitiveness. Two of the children have seen little of animals; the other nine treat them well.

Two are sometimes untruthful. Three are moody sometimes. All are affectionate, but two show their love to their *mothers only*. One child does not like to kiss or hug or be treated in this way herself, but likes to sit in her mother's lap.

One child is much afraid of gypsies and the cars. Another is afaid of horses and the dark. Another is afraid of horses, dogs and street crossings, but is not afraid of the dark. Another is afraid of dogs and some insects. The others are afraid of nothing.

Three of the children do not obey readily. Another obeys no one but her mother. The others obey promptly.

One child has a habit of throwing himself on the floor in fits of temper. Another sticks out her tongue when embarassed. Another cries out if her feelings are hurt.

All the children are busy all of the time excepting the little boy who was paralyzed. He soon tires of either play or work.

Two do not finish what they undertake. All but two of the children dress and undress themselves and have little tasks at home which they perform each day. These two are not required to do anything. Five of the children deliberate before deciding on a course of action. The other six decide at once. MRS. LIDA B. MCMURRY.

DISCIPLINE IN THE FAMILY AND IN THE SCHOOL.

In July, 1895, I read a paper on Children's Punishments before the National Educational Association in Denver, which was intended as a general survey of the problem of punishment as seen by the children themselves. This study was based on a study of 6,000 compositions written by children describing actual punishments which they had received, and telling whether they considered them just or unjust, and why. In the preparation of the paper many specific questions came up, a careful examination of which, through tests and experiments, will do much to make our disciplinary work, as parents and teachers, more intelligent and less arbitrary. If discipline is to be remedial, rather than revengeful or merely fear inspiring, we must know how children react against various common punishments usually imposed for the offenses which they commit.

Any teacher who is inclined to help us in the study of these questions can do so by giving her children from time to time one of the tests here suggested, as a simple composition exercise. Let each exercise be written on a separate sheet of paper, and see that the name and age of the child is always indicated on each paper that he writes. If there is any objection to giving the name, boy or girl will do quite as well, as we simply wish to determine the age and sex of the writer. Of course there should be no discussion before writing an exercise, nor after if other exercises are to be given later. Papers should not be rewritten, as we are not interested in the spelling or composition, but in getting the children's honest feelings. You will get better results if you say nothing about the use to which the papers are to be put. Let it be simply an off-hand composition exercise. In your conversations with particular children, and in the cases that come up in the school work you will get suggestions that will help us greatly if you will write them down and share them with us. Primary

teachers who will write down the opinions of their children, examining them one at a time, as opportunity presents, will aid us greatly, as returns from younger children are hard to get, owing to the inability of the children to write out their ideas. Our aim is to get the children's spontaneous impressions, opinions and feelings, that we may better know how to make the punishment cure the crime.

The questions are printed merely to show the teacher what each test, or little composition, is intended to show. The questions are not to be given to the children, nor is the teacher expected to answer them. She is simply to place the test on the board and ask the children to write a little composition upon it.

Question 1. What elements in our common punishments do children consider just?

Test.—Give your class the following directions for a composition exercise: Describe a punishment which you have received, at home or in school, which you have considered just, and tell why you thought it just.

Note.—For an answer to this question based upon the examination of 2,000 papers, see the study on Children's Punishments as Seen by Themselves, in the current number of the Pedagogical Seminary.

Question 2. What elements in our common punishments do children consider unjust?

Test.—Have your class write a composition describing a punishment which they considered unjust, stating why they considered it unjust.

Note.—For an answer to this question based on 2,000 papers see the study as above.

Question 3. Should corporal punishment be used more often with young children or with older children?

Test.—Give your class as a composition exercise the following: Once a mother gave a child for a birthday present—the child was just six years old—a beautiful box of paints. In the afternoon while the mother was busy in another room, the child painted all the parlor chairs so as to make them look nice, and then called out, "O Mamma, come and see how pretty I have made the parlor." The paint

could not be washed off and so the chairs were spoiled. What would you have said or done had you been the child's mother?

Note.—For an answer to this question, based on 3,000 papers, see Margaret E. Schallenberger's study, on Children's Rights, in the Pedagogical Seminary, Vol. iii., No. 1.

Question 4. How far can class punishment be successfully used? How early does the sense of social responsibility appear in children?

Test.—Give as a composition exercise the following: One day the teacher left the room and while she was gone, several children in the room began to make a noise. The teacher heard the noise as she was coming back, but did not know which children were out of order, and none of the class would tell her. So she kept the whole class in after school. Was the punishment just or unjust, and why?

Question 5. Should young children be held responsible for being on time when they have no way of knowing the time?

Test.—Give the following for a composition exercise: One day when I was about seven years old I went to a neighbor's to play, and my mother told me to be back by six o'clock. I was enjoying myself so much that I did not know how fast the time was passing, until I noticed it was getting dark. Then I ran home as fast as I could go, but it was half past six when I got there, and the family had been to supper. My mother scolded me for being late. Was it right for her to scold me or not, and why?

Note.—See a partial answer to this question in the study on Punishment for Weak Time Sense, in this number of the Transactions.

Question 6. How far and why do children object to partiality?

Test.—Two burglars broke into a house and stole some money. One escaped and could not be found, the other was caught. The regular punishment for such a burglary was five years in prison. What would you have done with the burglar who was caught?

Note.—There is a paragraph on this question in the Pacific Educational Journal, July, 1895.

Question 7. In case of conflicting commands, whom should a child obey? What is the highest authority in a child's life?

Test.—Give as a composition exercise the following: Mary's parents had told her not to sit on the floor because she would get her clothes dirty. One day her teacher told her to sit on the floor in one of the kindergarten plays. Whom ought Mary to have obeyed?

Question 8. Does the fact that some one else began a quarrel or a fight justify a child in continuing it?

Test.—Give the following as a composition exercise: Johnny was standing on the sidewalk, watching a game of ball, when his brother Frank came up and hit him; Johnny hit him back. Just then their mother saw them and called them into the house. She had told them not to fight. What would you have done with the boys had you been in her place?

Question 9. Ought children to testify against evil-doers?

Test.—Give the following as a composition exercise: One day while the teacher was busy she heard some one laugh. She asked a girl who had laughed; the girl would not tell, though she knew. Did she do right or wrong in not telling, and why?

Question 10. How far can authority be delegated by the parent or teacher?

Test.—Give the following as a composition exercise: Johnny's mother was going away, so she told him to look after his sister Mary. After the mother was gone, Mary began to scratch the table; Johnny told her to stop, but she went on scratching it. Should Johnny have punished her, or should he have waited and told his mother?

Question 11. If a child lives up to the letter of the law, does this excuse him from moral responsibility?

Note.—I have no practical test for this question, but it is thoroughly discussed in John Johnson's Rudimentary Society among boys, in Johns Hopkins University Studies in Historical and Political Science, Vol. II.

EARL BARNES.

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PUNISHMENT FOR WEAK TIME-SENSE.

Children's plays often take them away from the vicinity of time-pieces, and their general sense of time is so weak, and they so easily become absorbed in their play, that it is little wonder if they sometimes fail in promptness, even when their intentions are of the best. This would make us expect that punishments inflicted for tardiness or absence would often be looked upon by the children as unjust. With a view to finding the attitude of the children toward this sort of punishment, the following study was submitted to the teachers of San Mateo county, Cal., and their children wrote little compositions, giving their judgments concerning the justice or injustice of the punishment. Some scattering papers have come in from other places, and we have collated them all together.

"One day when I was about seven years old, I went to a neighbor's to play; and my mother told me to be back by six o'clock. I was enjoying myself so much that I did not know how fast the time was passing until I noticed it was getting dark. Then I ran home as fast as I could, but it was half-past six when I got there, and the family had been to supper. My mother scolded me for being late. Was it just or unjust, and why?"

The study was planned, so that the child's only offense consisted in his being late. The papers written were very brief, generally confined to three or four lines, the following being fair samples:

"I think it was just, because her mother told her to come home at six o'clock, but she didn't come home till half-past six."

"I think it was just, that the child should have a scolding because she did not obey her mother and do as she was told."

The children almost always took the study as being personal to themselves and wrote their answers in the first person.

Several of them understood the question to refer to the justice of the child's conduct, instead of the justice of the punishment, but such cases are easily transferable. For example, a girl of eight says:

"It was unjust because she told me to come home at six o'clock, but I did not mind her. I ought to have done as she was told." Through all this confusion of personality the meaning is perfectly plain, as also in the following case of a boy of ten:

"It was unjust because he ought to be at home at time."

In collating the material, it easily falls into two groups; one saying that the punishment was just and the other, it was unjust. Those who say it was just give reasons which fall under the following headings: A child should obey; He came home late; It would make him remember; He should watch the time; and, Miscellaneous. Those who say it was unjust, give as their reasons: The child was absorbed in play; He did not know the time; and, Miscellaneous.

Some of those who gave reasons for considering the punishment just, aside from saying that the child was late or that one should obey, said it was just because:

"When told to be home at a certain time, he should have that first in his mind and not pleasure."

"She could have asked the little girl's mother to tell her when it was six."

"The child's parents knew more than the child."

"I kept the supper waiting and my father and mother fretting."

One child who considers it just, adds:

"It would be right to tell your mother that you were having a good time and did not think about asking what time it was, but I don't think she would want to hear that."

A girl from one of the southern counties sums up the matter for those who consider the punishment just, as follows:

"It was right that my mother scolded me because I did not obey her, I should have asked what time it was when I went, and told them I could only stay till six o'clock, so they might tell me when it was six o'clock if I was playing and did not notice the time and besides I was late to supper so my mother

had to warm the things for me because I would not want to eat a cold supper, and my mother might have to sit at the table with me because I would not like to have eaten supper alone very much, it would make my mother a little late with the dishwashing, so I think it was right that my mother scolded me."

The following are reasons given by the children for considering the punishment unjust:

"Because it is pretty hard to know what time it was."

"How could the little thing (only seven) remember or tell the exact time. Mothers often go visiting and say they will be back in time to meet someone else and they don't come just the minute."

"He was enjoying himself so much that he did not happen to notice the time, and probably the mother would have forgot herself."

"The child didn't have a watch and couldn't tell what time it was."

Again a southern boy of ten sums up the matter:

"I think I ought not to have a scolding because I forgot all about it and I was enjoying myself because I hurried along when I was going home as fast as I could and another reason why I was having so much fun and of course I forgot all about it and I think it was unjust for her to scold him."

Very few of the children consider both sides of the case, probably because the study called for a decision for or against the punishment; but these are some of the conditional judgments given by a few children:

"If it was the first time it would be just, because if it is overlooked the first time a child will never come home on time."

"It would have been just if the child knew how to tell the time."

"It was just for the child if he had stayed longer than 6:30 but I don't think he deserved it for staying hardly half an hour out of the proper time."

A boy of fifteen sums the matter all up when he says:

"I think the boy's mother should have been more considerate and the boy be a little careful."

And a boy of eleven sums it up more in detail:

"I think that it was wrong to be late for he ought to have seen what time it was, but I think it was unjust for the teacher to scold him for being late if he was enjoying himself so much as to be late, and that he went home as fast as he could when he found out how late it was, but I think he ought to have noticed the time, and go home at the right time, but I think it was unjust to punish him when he went home as soon as he found out how late it was, his mother ought to have told him to find out the time, next time."

Of course all these studies on punishment give the goody-goody children ample opportunity to air their platitudes. The following paper, written by a boy of eight, is too good to be omitted:

"I think it was wrong because he ought of looked at the time and it was naughty and I think I ought to hay a scolding he was a bad boy and he ought not of did it. he ought of came home when it was just getting dark I think he ought of asked to go in and see what time it was and then he would have known the time and came home early and then he would have not had a scolding and then it would be nice perhaps his mother would not let him go any more. It was wright for his mother to scold him cause he ought not stad so long and it would not been bad and perhaps it would of been nicer for him and he would perhaps been happer and I think it was a good plan. and the boy was bad and he would not had a scolding or any bad thing if he had not of done it and I think the mother was good for doing it to her boy because he had not of done it."

Of the 636 papers examined, 535 declare the punishment just, while but 101 papers, about 15 per cent., look upon the scolding as unjust.

The unanimity with which the children accept the idea of personal responsibility, even for a child seven years old, is reassuring for those who are inclined to question the perpetuity of democratic institutions. The universal acceptance of the idea that obedience is the first law of childhood ought also to be reassuring for conservative minds. Thirty-eight per cent. of the children say the punishment was just because one ought

to obey, and some of the cases collated under Miscellaneous would help to swell this percentage. Only 15 per cent. seek a reason for the punishment outside the will of the parent. Six per cent. say the punishment would make a child more careful in the future; and 9 per cent. say the child ought to have watched the time.

Only 15 per cent. say the child was unjustly scolded; of these 3 per cent. say the child was absorbed in his play, 6 per cent. say he did not know what time it was, and the remainder fall into small miscellaneous groups.

The different points of view taken by children of different ages, which one would expect to find, do not appear with this small number of papers, nor is any decided difference to be found between the boys and the girls.

It seems to me that the children in the most backward schools are generally inclined to accept the punishment as just. Their answers are perfunctory and law-accepting. The children from the most enlightened communities on the other hand are more inclined to question the justness of the punishment and to give intelligent reasons for their doubts. This point, however, with many others, must wait a more extended study of the facts in the case. This little paper is intended simply to be suggestive for members of the Society.

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TOPICAL SYLLABI FOR CHILD-STUDY.

ANGER.

The phenomena wanted are variously designated by the following words: Wrath, ire, temper, madness, indignation, sulks, sours, putchiness, crossness, choler, grudge, fume, fury, passion, to be or fall out with.

1. Add any other *terms* or any euphemisms, or phrases you know or can get from children indicating their feelings.

2. Describe every vaso-motor symptom, such as flushing, paling about forehead, cheeks, nose, neck, or elsewhere. Is there horripilation, chill, shudder, tremor, prickly feeling, numbness, choking, twitching, sweating, if so where and how long. Are there any accompanying sensations of color, flushes, taste, smell, noises (question for each sense). Can blood pressure be tested?

3. Describe all changes of muscle-tension, scowling, grinding teeth, opening lips, setting of eye, clenching fists, position of arms and attitude of body. Is there nausea or a tendency to either contraction or relaxation of sphincter muscles which control anal or urinal passages.

4. Describe overt acts, striking (how, down, straight out, with fist or palm), scratching, biting, kicking. At what part are blows or attacks aimed.

5. What is the degree of *abandon* or loss of self control. Is it complete and is the rage entirely blind, or usually is some restraint shown in the intensity of blows or some consideration in the place attacked.

6. Describe long delayed anger, the venting of secret grudges long nursed and deliberately indulged.

7. Describe intensity curve of quick and slow children.

8. Describe reactions, physical; mental or moral, whether lassitude, contrition, and all verbal or acted signs of regret.

9. How do children speak of past outbreaks of anger in themselves, and of anger in others, and in general?

10. What treatment have you found good, and what palliatives do irascible children apply to themselves?

In description be photographically objective, exact, minute and copious in detail. Tell age, sex, family life, temperament, nationality of every child. Add to all a description of your experience with anger in yourself, and if possible get a few of your adult friends, whether good or ill tempered, to write theirs, or organize a little circle of friends, mothers, teachers, neighbors, to talk over the subject and to observe in concert. Above all get children of different age and temperament to talk confidentially, or better, to write their own ideas in response to such questions as, tell some things which make you angry; when do you get angry easiest; how do you feel and how act, how check it and how feel afterwards; write cases of others getting angry in detail, and state what you think about it generally.

This is a subject of obviously great importance for moral and even physical education, but there is almost no literature worth reading upon it. It is so vast that it can be best explored by concerted effort. The undersigned desires to investigate the subject and invites you to coöperation by sending him *any notes, however incomplete, upon any aspect of the subject.* Or, if preferred, you can start with these hints and work out your own data and print your conclusions.

Let us try the concerted method of work and in some way pool its results for the mutual benefit of teachers and for the good of the children we all live for.

G. STANLEY HALL,
Editor of the *Pedagogical Seminary.*

CLARK UNIVERSITY
Worcester, Mass.
Oct. 1894.

II. DOLLS.

The data desired are juvenile feelings, acts, or thoughts toward any object which represents a baby or a child.

1. Describe your dolls and get children to do the same; whether of wax, rags, paper, pasteboard, rubber, china, wood, stone, etc., and give instances where clothes pins,

nails, bottles, vegetables, sticks, flowers, keys, button hooks, etc., have been regarded as dolls in any respect or in any degree.

2. Feeding. What foods, liquid or solid, and how are they given. Describe imaginary foods, dishes, spoons, and other utensils. Is there any regularity or system in feeding, and are hunger, starvation, food preferences, or growth imagined.

3. Medicines, diseases. What diseases, pains, symptoms are imagined. How is sympathy shown. What drugs are given. How, and with what conceptions. Imaginary doll doctors, their visits and functions. Surgical operations, etc.

4. What constitutes the death of a doll. Funeral services, and burial of dolls. When lost or crushed do children assume a future life for the doll, and does this assuage their grief.

5. Give details of psychic acts and qualities ascribed to dolls, and show how real, how treated, etc., are their feelings of cold, fatigue, anger, pain, jealousy, love, hate, goodness and badness, modesty, tidiness, etc. Is any individuality of moral or other characters consistently and persistently ascribed to dolls.

6. Dolls names. Are they of real persons, and if so is there any resemblance real or fancied.

7. Accessories and furnishings, toilet articles, clothes, beds, tables and dishes, trunks, fashion and its changes, toys for the doll, etc. How far in fact are these carried, and how far should they be. What dangers if any here.

8. Doll families, and the relationship of the members, doll schools, doll parties, balls, entertainments, weddings.

9. Doll discipline, hygiene and regimen. What toilet and what rewards and punishments are usual, and what moral qualities are aimed at.

10. Dolls' sleep. How are they put to sleep. What are the favorite lullabies, and does the doll's sleep keep the children good and quiet.

11. Dress. What is the influence of dolls upon the children. Can taste in dress, tidiness, thoroughness in making their

clothes, or other moral qualities be cultivated. How does the material of which the doll is made and the degree of life-like perfection react on the child. Is there regularity and persistency in the care of dolls. Is imagination best stimulated by rude dolls, which can be more freely and roughly used. Are children better morally, religiously, socially or better prepared for parenthood and domestic life by them. How can the educational value of dolls be better brought out.

The above points are intended to be merely suggestive, and are of course far more comprehensive than any returns are expected to be.

Read this syllabus and write down with accuracy any facts which memory or observation may suggest, carefully specifying age, sex and nationality.

Or, if practical, question children, or if in a normal school, let pupil teachers take this syllabus as a lesson on the blackboard in the psychology of childhood, and each record memory or observation.

Returns addressed as below will be carefully edited, credited and printed.

G. STANLEY HALL.

CLARK UNIVERSITY,
Worcester, Mass.
Nov. 1894.

III. CRYING AND LAUGHING.

I. A cold blooded description of a cry is wanted, whether mild or with utter abandonment, and whether in a new born babe, a child, *or in yourself.* Read this syllabus carefully to see scope and points and then write carefully observation or experience, or get others to write or talk, noting age, sex and nationality.

First symptoms at corners of mouth, lips; describe a pout; describe corrugation of forehead and direction and number of lines; movement of nostrils; first and later changes in breathing, in fulness and frequency. When do tears come and accompanying gestures? Efforts of restraint, position of head, eyes, body. Does the child sit or lie down to it, stop or slow up its walking; drop things; are its hands clenched?

All *noises*, premonitory, such as sighing, catching breath, sniffle, whining, stertorious breathing, râles, sobs. Give historiettes of all vocal sounds as to pitch, length, stress, timbre, steadiness, etc., for each breath, length of these, their number and interval, length of whole cry, with especial attention to its closing phases. Illustrate this ever so roughly, by curves, spaces, notes. Describe every convulsive sign. All reaction and after effects. Automatic *after-crying*, drooling. Reactions, physical, mental, moral, after a good cry. Are attacks periodic? Causes. Advantages of crying. Describe half-feigned and conscious crying for effect. What are common modes of treatment? What stops it? What more general bodily accompaniment?

II. *Laughing.* Describe all phenomena as of crying. How do different children and adults of your acquaintance smile and laugh? Describe individual cases of giggling, convulsive and hysterical laughter, affectation and simpering. What is tittering, grinning, horse laughing? What provokes laughter in children?

III. Describe and discuss persons and individual fits of crying and laughing. Be concrete and detailed. Note cases where crying and laughing first differentiate in infants and pass into each other later. State likeness and difference between crying and laughing, and record especially *any other expressions of pleasure or pain* of whatever other nature. Name or send titles of any articles on crying and laughing, and any wood cuts or photographs of a cry or laugh. How many sounds and what is each and how do they slowly differentiate and increase? Be full about morbid cases.

If you are a photographer get snap shots at children crying and laughing, and if you have a phonograph record a few cries and laughs.

Returns will be carefully edited, credited and printed. Always state age, sex and nationality.

G. STANLEY HALL.

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Dec. 12, 1894.

IV. TOYS AND PLAYTHINGS.

(Exclusive of Dolls, for which see Syllabus II.)

What were your own first toys, or those of some child observed, heard or read of? At what age does the infant grasp, handle, examine them? Does it play with its own toes or fingers? Was it ever seen to use the former in grasping toys? Give full description of favorite toys taken away from home, or to bed, etc. What kind of toys does it love to break or what does it love to pull to pieces, and at what age? Why? Is there any order of preference for blocks, balls, sticks, utensils, toy plants or animals, machines, tools, things used in set games, etc.? Does the child pick up sticks, shells, stones, nuts, marbles, and play that they are alive? Does it talk to or with its toys, and is its language then different in form of words, inflection, loudness, etc.? Write out any such talk minutely. What toys are assumed to suffer or enjoy with the child? Does the child ever leave its proper toys to play with shovel, tongs and other forbidden or unusual things? Does it ever play *entirely* with imaginary toys, make imaginary houses, people them in its mind with imaginary persons, animals or things? Describe such cases *very fully*.

Are crude or elaborate toys preferred, big or little ones, nicely finished or rude toys, French, German, Japanese, Russian, Yankee or other toys? Describe everything the child has ever made for itself, whether with paper, strings, chairs, stones, spools, boxes, metal, wood, earth, snow, cloth, cotton, feathers. Does it prefer stuffed cushioney rabbits, elephants or animals made with hard exteriors, and what is its feeling toward those with motions? What noises does the child prefer to make by beating, blowing horns, etc.? What charm has noise in toys (animal or mechanical) and what kind of instrumental or vocal noises does it love? Describe cases in which any toys are assumed to see, hear, smell, taste or touch, or instances where they are assumed to feel cold, darkness, heat. Does the child ever vent its anger upon them, perhaps instead of upon persons, any other emotions manifested towards toys? Does the child go to them for comfort when grieved with its elders? If lost, is there any anxiety about the toy's probable condition? Are toys carried on journeys

to share its child's experiences or adventures? Are they cherished as relics of a past? Are toys persistently hidden, and is there any liking for out-of-the-way corners and holes, and other hiding places? Does it leave toys scattered or heaped, in order or confusion? In construction, as with blocks, does it build high and concentrated, or spread out its blocks? Does it prefer old toys and few, or is it always longing for the new ones and many? Love of ownership. Are its own toys used better or worse than others? Is breakage accidental, in anger, from curiosity to see the inside, careless, or deliberate, like an execution? Are toys ever buried, and how, and why? Are some toys used at special times, as Sunday, bed-time, etc.?

What is the play value of color, regularity of form, smoothness? Does it regard some toys as morally better than other? Would it feed a toy horse bread or hay, *i. e.*, does it interpret the toy's nature truly, or according to its own? Are animate and inanimate toys, naughty or good, deserving of punishment or reward? Is the child open or self-conscious about its toys, and has it drawn a line between "make-believe" and reality? Examine the child's pocket and explore the uses for each thing therein. Does the child carry or wear charms, badges, lucky stones or sticks, or things that have been blessed, to keep off evil? Are new ones devised and worn only by chums? What toys are loved longest? Record every word spoken by the child in solitary play and overheard unbeknown. How do boys and girls differ in their toy preferences and uses? What has been said or done by older people to influence such preferences? Describe, and if possible photograph, any good out-of-door play-houses and their contents and regimen.

Describe children's propensity to dress up and otherwise personate others, with clothing and other real or imaginary accessories to this end, and all involving changes of personality. Describe the setting apart of certain room, corners, or space out-of-doors, to represent other localities, and all involving changes of time and place.

Question toy merchants and manufacturers and get their catalogues.

What toys do you think best or worst for any age or sex, and why? What do you think of toy theatres, dainty and fragile toys, toy tools for industries and trades, military toys, toy stores, the Christmas tree, candy toys, toys of fashion?

Record age, sex and nationality.

G. STANLEY HALL.

CLARK UNIVERSITY,
Worcester, Mass.,
Dec. 18, 1894.

V. FOLK-LORE AMONG CHILDREN.

All signs, omens, charms, and if possible, their explanation are wanted.

1. *Cures.*—What is the best way to cure warts, moles? to stop hiccough, toothache, chill or ague, whooping-cough, fainting, dizzy or other spells, palpitation, nausea, headache, or croup, growing pains, lameness, bruises, sleeplessness, worms, earache, nosebleed, or sneezing? How should burns, ring-worms, boils, stings of bee or nettle, bites of dog or cat rash, pimples, freckles, anger, hunger, thirst, chilblains, bleeding, scalds, be treated? What should be done (as blowing)? What takes out fire from a burn? What should be put on, and what said? What is the cause of each? What herb, drug, regimen or other treatment is good for fever, consumption, diarrhea, numbness, paralysis, general weakness? What is it well to do to make a person love you, or to cure love pains, or to injure or help a person at a distance? Is a dirty stocking around a sore throat better than a clean one?

2. *Signs.*—Of what are the following signs, and what, if anything, must be done? Finding pins or things with points towards you, leaves floating in tea, seeing the moon over the left shoulder, of a squirrel, rabbit, or other animal crossing our path, of stumbling up or down stairs or otherwise; sign of black cats, howling of dogs and cat and dog signs generally, meeting a funeral train, stepping over a grave, sneezing, sitting thirteen at a table; signs about the burning of a candle, bells, getting out of bed wrong, dusting and sweeping signs, mirror

signs, putting things on wrong side out, spilling salt, spitting on the bait in fishing; dreams, their meanings, and when to tell them? How should corpses be carried and buried?

3. *Plants and Animals.*—Can cats suck the breath of sleeping babies? The number of lives of a cat? The sign if frogs are killed cows give bloody milk? What signs do you know about crickets, toads, daddy-long-legs, spiders, mice, roosters, crows, ants, bees, wasps, dragon-flies, birds, snakes, snails, robins, swallows; killing them, seeing them first in the spring, their noises, etc. Did you ever have any special experience with any of these? What is the sign about the March hare, and ground hog? Did you ever know a tree or plant grow with a child, and languish when the child did? What is your favorite flower and tree, and why? Flower signs?

4. *Miscellaneous.*—What must be done with horse-shoes for luck? When is it well to spit for luck, and how? What is best done in the new, and what is the old of the moon? What is most likely to happen at midnight on the stroke of 12? What is the most lucky and unlucky hour of the day, and day of the week, to do things on? Why do people throw rice and shoes at the newly married? Which is the best ring finger, and what if the ring wears out, breaks, or is lost? What is it well to put under your pillow for dreams? Who should cut the wedding cake, and how, and what is done with that not eaten? What signs about the first tooth of a baby? What is there peculiar about a seventh child, or being born with a cowl? What do birthmarks mean? What do you know of fairies, ghosts and witches? Do you wear a moonstone? Do you fear to wear opals? What do you say and do with a wish-bone; and also when you find a red ear of corn in husking? Do you know any special spells or charms? What helps to find lost things? Do you know any weather signs in plants, or animals, or any other? Do you know any signs about New Year's day, Christmas, Easter, the first of April, Hallowe'en; or about washing-day, house-raising, quilting, cider, butchering, harvesting, gardening and other vocations? Do you know any weather proverbs? What signs connected with turning back, turning over a chair, a light going out? What ways of conjuring did you ever hear of?

Give instances of intentional violation of such signs, and the results? Do stones grow? What has been your success in getting rid of troublesome superstitions? Note any other folk-lore you can think of.

5. Whether recording your own "use-to-thinks" or "use-to-hears," or questioning children, always ask *why?* and *how?* Avoid leading questions that suggest one answer rather than another. Note age, sex, and nationality, and suggest new points of folk-lore yourself if they occur.

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CLARK UNIVERSITY,
Worcester, Mass.,
Jan., 1894.

VI. EARLY FORMS OF VOCAL EXPRESSION.

The following points concerning child language are desired:

1. Describe the very beginnings of vocal utterance: noises, cries and their meaning. How do the sounds for hunger, sleepiness, wetness, anger, etc., differ? How does crying slowly get a speech value? Describe babble, "la-la-ing," or meaningless chatter.

2. Note every interjection, or exclamation, or ejaculation spontaneously expressive of effort, feeling or any psychic activity, including grunts attending effort or strain, noises expressive of pleasure in eating, resting, warm bath, gratified or thwarted wishes or expectations, surprises, etc.

3. Give *every* word that seems to be purely original, with meaning and illustrative sentences containing it. Give any language of their own such as children first learning to speak sometimes develop. Note secret language.

4. Note every onomatopoetic word, imitating wind, rain, thunder, running water, noises for animals, including everything designated by the noise it makes. Was such word originated by parent or by child?

5. Record earliest words, noting every mispronunciation and every error of meaning ascribed. Vocabulary of such words. Also give as many as possible of earliest series of two or more words joined as a rudimentary sentence; a vocabulary

of these, showing all mistakes or originalities of grammar; illustrate the child's inflection or syntax.

6. As conversational speech slowly drives out spontaneous expression, what sounds that the child could once utter does it loose the power to pronounce, careful list and description.

7. What is the proper treatment of children just learning to speak *e. g.*, should their attention be called to difficulties? Do they sometimes prefer nonsense rhymes and words, and should the "babble" stage be prolonged or eliminated? Would you check baby talk or insist on correct pronunciation, and why? Effects of diet, or regimen, fatigue, illness and passion on precocity in speech?

8. Describe any expressive gesture or attitude, whether of hands, body or face, and note rhythm, stress, inflection and especially *spontaneous singing*. Describe every trace of pantomine, special gesture with a speech value, buffoonery, mimicry, love of acting.

9. If you can gain access to any deaf mute or to any imbecile, or child in any way exceptional, describe every vocal sound, with meaning and circumstances, etc. Also if you can observe or note any differences in the noises of dogs, hens, cattle, birds, insects, or other animals.

10. Very important will be any observation of a case of gradual loss of word power in adults (aphasia) as distinct from sudden loss from injury, whether in old age, or progressive disease, or weakness. In such case note the *order* in which power of using each kind of word or sound is lost. Note also all cases of progressive loss of power to write or gesture (agraphia, asemia). If such cases can be observed, personal correspondence is invited.

Always state age, sex and nationality and any other significant circumstance and especially if the child has had much companionship. Be careful to record each sound or word with any spelling, accent, or other phonic method or sign that will show the exact pronunciation. The Bell method of notation, or better the phonograph, are suggested when practicable, but careful observation is the main thing. Recall your own childhood and that of your friends, seek their aids.

These questions are very comprehensive, with the design of suggesting something to all.

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Jan., 1895.

VII. THE EARLY SENSE OF SELF.

1. Describe any handling or watching its fingers, toes, you have seen by infants, or any case of feeling of ear, or bones, or of one hand by the other, any biting, patting, striking or stroking self, as for reward or punishment, or as if the member belonged was an external object, or another self. Note any act that looked like investigating any part whatever of the body as if exploring the dermal boundary of the physical ego, or learning the difference between touching self and touching any thing not the self.

2. How does the child speak of itself. Does it ever address itself in the third person, or ever soliloquize; when and by what stage does it advance to the use of the first personal pronoun. Is "I" and "me" and "mine" also "you" and "yours," correctly used at first. Just what does each mean to the child, and what changes in the use of each. Describe with care any distinction you have ever noticed between body and soul that seemed in the least degree probably spontaneous, either implied or expressed.

3. Enumerate all the designations ever applied by parents or nurses, or friends, either to any given child, or list all terms you have ever heard of, *e. g.*, pet, baby, darling, honey, bub, chap, kid, brat, cherub, patsy-wotsy, etc., not omitting the silliest and most nonsensical effusions of maternal tenderness. At what age is the child habitually given a name, and when habitually called by it, and with what distortions and abridgement, *e. g.*, when does Josie become Josephine, etc., for the parents, and when for the child.

4. How does the child come to distinguish the persons about it, to know them apart? In what order and by what signs do you know it distinguishes them. List the designation

applied by the child to the first dozen or two persons it sees. Note the history of these designations from the time when strangers are "man," onward stating how man and woman, boy and girl, adult, child and infant are first designated.

5. What effects have you noticed of bath, toilet, new articles of dress, ornament, of being noticed by others, of being praised, flattered and watched.

6. Enumerate each animal, plant, vegetable, or inanimate thing to which the child has ever seemed to ascribe feeling, sensation, or any element of conscious self. Specify just how.

7. Note any early reflections of older children on the inner nature, as "You can see only my body if I shut my eyes." "Am I real or only make believe like dolls?" "How do my thoughts get out of my head or heart through my mouth?" "How can I move my limbs when a chair cannot move its?" "Where or what was I before I was born." "Did things happen so then too?" "Why was I not some one else and not I?" "Who would I be if papa had married another mamma?" etc.

8. Earliest notions of what children are going to be when grown up. Why is the chosen career attractive in each case, and how was the calling suggested.

9. Early doubts of nursery fiction, or of the reality of Santa Claus, fairies, bogy man, witches, ability of animals to talk, or of any other myths, fables, or popular superstitions, for which see Syllabus V.

Note age, sex and nationality, and whether each record is from memory, observation, literature or report.

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Worcester, Mass.,
Jan., *1895.*

ESSENTIALS OF SCHOOL-HYGIENE.*

BY D. F. LINCOLN, M.D., GENEVA, N. Y.

Upon the formation of the Committee it was thought best to divide the work among the members, assigning a separate department to each. It has been found in practice, however, that the ground has not been fairly covered by this plan. Long and careful special papers have been prepared and published by some of the members, while others, though deeply interested in the work, have not found time to treat their assigned subjects in a manner which would justify them in publishing results. It has, therefore, seemed best to the Chairman of the Committee to take the responsibility of drawing up a brief but comprehensive statement of principles, covering all the topics; submitting the whole to each member, and presenting the matter to the Section of State Medicine.

It seems desirable in doing this, to avoid statements which are open to reasonable doubt. It is thought that the most useful results can be gained by a simple untechnical presentation of facts, omitting discussions, statistics and arguments; with the object of securing the attention of school authorities, teachers, builders, and others interested in education.

A—SITE, DRAINAGE AND SEWERAGE OF SCHOOL BUILDINGS.

1. Good Light.—This point has been seriously neglected in many city sites, for financial reasons. The neglect to secure good light has been demonstrated to be an important cause of near-sight in scholars. The desired object can be attained by reserving a tolerably wide strip of land around the school building at the outset, and by municipal regulations restricting the height of neighboring structures. It is suggested that the

* Report presented to the Section of State Medicine, at the Forty-Fourth Annual Meeting of the Am. Med. Assn. Reprinted from the Journal of the Am. Med. Assn., Vol. XXI, No. 20.

height of such buildings around schoolhouses should not exceed one-half the distance between them and the schoolhouse; or, that the line drawn from the foot of the school house wall to the upper part of the other house should not form an angle with the horizon exceeding 30 degrees. In small towns the space for play grounds should be much greater —at least a half acre.

2. Sunlight.—If possible, the sun should enter every room in the house at some time in the day, but chiefly out of school hours. The play grounds should be placed, if it can be so arranged, on the sunny side of the house.. There should be no trees overshadowing the house, since this causes dampness.

3. Neighborhood.—Disturbing influences, as the presence of large bodies of working people, railroads, noisy streets, engine houses, are injurious for various reasons, partly as furnishing undesirable outside associations. Immorality or filth should not be suggested in the surrounding neighborhood. A main city street is commonly to be avoided. The vicinity of offensive trades, as tanneries, rendering establishments, refineries and gas works, is to be avoided.

4. Soil.—A damp soil is of itself a serious objection to a site. The case is worse if the site be low, with poor natural drainage and poor opportunity for artificial relief. If it be necessary to build on a springy piece of ground, a trench must be dug around the foundation to a depth below the cellar floor, and far enough from the building to insure the safety of the walls; in this, drain tile with loose joints is laid, discharging away from the building at some lower point. It is useless to cement the cellar wall or floor for the purpose of excluding water, but cement or asphalt forms a good protection against dampness.

School yards in towns should be so paved (not graveled), and underdrained if necessary, as to become dry within an hour after a rain. Dry walks should lead to the out-buildings.

5. Out-buildings.—If privies are employed, they should never be within fifty feet of the main building. They should be separate for the sexes, with entirely separate paths of access, and having a board fence between. Dry earth or sifted ashes should be sprinkled over the contents once a day.

The entire contents should be removed once a fortnight. The receptacle must be so constructed that such removal can be effected easily and completely; or it should itself be removable with its contents. An iron trough on wheels, or a metal pail is suggested.

Urinals must not be made of iron, and they had better not be made of any metal. Impervious material, such as glass or oiled slate, is best. Cement is very objectionable from its porosity. Joints between slabs should be perfectly tight.

6. Water-closets.—When a supply of water is at hand, water closets are the best arrangement. They may either be single, or may consist of long troughs corresponding to a number of seats. The pan closet is undesirable, since its inner parts are not freely cleansed by the flow of water. Of the simpler forms of closet, all those which do not furnish a quick and free discharge of water, cleansing the bowl thoroughly and removing all the contents within a few seconds, are to be absolutely rejected. A noisy apparatus is exceedingly objectionable for closets which are placed (e. g. for teachers' use) in the vicinity of schoolrooms; the noise may proceed either from the tank or the basin.

One of the simplest forms of apparatus for schools is the long tank of cement or iron placed under the range of seats. The bottom is covered with a few inches of water, and slopes to an outlet so that by raising a plug the whole contents are quickly discharged into the sewer, after which cleansing is easily effected by a hose and broom. The addition of an automatic flushing apparatus acting spontaneously at fixed intervals, has been found desirable.

All closets and urinals in a schoolhouse must have special ventilation by forced draught. No mechanical contrivances or disinfectors do away with the necessity of personal inspection and faithful cleansing by hand.

7. Plumbing.—The principles of drainage and sewerage, commonly termed the art of plumbing, are the same for school buildings as for other edifices. It may be stated, that pipes and other fixtures ought to be so placed that they can be *seen* by lifting movable boards, without having recourse to a carpenter, or mason, or plumber, to disclose their intricacies.

It should further be understood, that the whole system is under the control and supervision of some responsible and intelligent person, who possesses sufficient plans and drawings of the system, and pays frequent attention to its condition.

B—CONSTRUCTION.

1. Safety.—The chief danger is found in old buildings, and in those not originally intended for their present use. In such, we occasionally find conditions which are nearly sure to cause accidents in case of a panic. The staircase is the important point. It must be very strong, wide and easy; not steep, not sharp-angled, not spiral or with wedge-shaped steps; it should have a platform at the turn. It is safer without a well; if balusters are used they must be high. In large buildings a staircase should be placed at each end. Halls and outer doors must be wide, and all doors open outward. Fire-escapes on the outside are at best an undesirable refuge, and in the ordinary forms may be very dangerous to a crowd of frightened children. Discipline and practice in "fire-drill" or quick orderly march from the school, are by far the best safeguards.

2. The Schoolroom.—The size of a classroom should be governed by the number of pupils it is intended for. If we assume that 50 can be attended to by the teacher, and that 200 cubic feet of space is allowed per head, a room 24x33x 12½ will answer well. The oblong shape is desirable. If the dimensions here given are exceeded in length, there will be difficulty on the teacher's part in supervision and on the scholars' part in seeing what the teacher may show or write on the board. A greater depth or distance from the windows than twenty-four feet will impair the lighting.

3. Illumination.—The lighting of a room for school-work requires a much larger allowance of window space than is needed for dwellings. The windows must be square-headed, and brought very near the ceiling; there must be no projections (cornices, piazzas, Italian shades) to interfere with the free entrance of light. The total amount of window glass on a liberal allowance may equal one-fifth the floor space; if fully exposed to the sky, less will suffice. Roller shades are of most use when the roller is placed at the foot of the window.

Light coming wholly from one side (viz., the left hand) if sufficient in amount, is the best for the eyes; if this plan in any case appears likely to give insufficient lighting, owing to local conditions, windows may be added at the back, possibly also at the right (but in the latter case, at a very high level). Windows in front of the pupils are very injurious to the sight. The wall should be colored of a neutral tint, or with a faint shade of blue or green if liked. The ceiling should be white It must have no cross beams placed transversely to the light. Blackboards must not be placed between windows.

4. Miscellaneous.—The size of recitation rooms must be planned upon the same principle as that of schoolrooms, viz.: that of allowing 200 cubic feet per scholar.

It is desirable, where possible, to limit the height of a building to two stories above the street, inasmuch as injury not infrequently results from the excessive strain of climbing stairs.

Accommodations for hanging clothes should be furnished outside of class rooms, with good provision for ventilation. Enclosed spaces in the halls, open at top and bottom, are suitable.

Cellars or basements must be high, dry, well-lighted and thoroughly wholesome. If there is no cellar, there must be a dry sub-floor space under the whole building.

Dust being a destroyer of pure air and a foe to health, care must be taken to avoid for floors such material as produces dust; if of cement, it must not crumble; if of wood, it must be "filled" so as to be impervious.

C—VENTILATION AND HEATING.

A very large proportion of schools are so poorly provided with ventilating arrangements that they are practically dependent on open windows. To relieve this unfortunate state of things, the lower sash may be raised two inches (less, in stormy weather), and a board placed in front to deflect the air upward. The upper sash (which ought always to be movable) may be lowered an inch. These measures are attended with little risk, and give perceptible, though partial, relief.

Perforations in the sash, window pane, or wall, also give some relief. Such methods may provide sufficient air for five

or six persons in a room, but are entirely inadequate for the supply of a whole class.

The attempt to ventilate schoolrooms in cold weather by the windows, in the Northern United States, is either very dangerous to health or very ineffective, or both. The amount which can safely be admitted in this way may be one-fifth to one-tenth of what is needed. The existence of ventilating flues or openings does not of itself insure good ventilation. Flues may be too small, or crooked, or partly or wholly stopped up; they may discharge into other rooms or the attic instead of the outer air; they may be unprovided with means for causing the air to rise in them; they may be in many ways badly planned. To enumerate the faults which may be committed would require a treatise.

It ought to be understood by everyone concerned in ventilation that large collections of persons require very large amounts of air; that the amount should be calculated, and the size of the flues determined before the house is planned; that true economy requires us to consider the system of heating and that of ventilation as inter-dependent parts of one and the same problem; and that both should form a part of the original architectural design.

The amount of fresh air to be brought into the building for each pupil should be 2,000 cubic feet per hour for younger children (under 10) and 3,000 for high school pupils. These amounts are calculated from the assumptions that the external "pure" air contains an average of 4 parts of CO_2 in 10,000; and that when the CO_2 has increased, under the inufluence of respiration, to the amount of more than 6 in 10,000, the air may be considered "impure." Dilution, to the extent mentioned above, will keep the air of the room below the point of "impurity," here assumed. The purity required by this standard is such that persons coming fresh from out of doors will not perceive any distinct closeness in the air of the schoolroom.

As regards the relative requirements at different ages, it may be assumed as proportionate to the different amounts of CO_2 exhaled by people of different ages. In the case of case of children of 8 years, it is about two-thirds as much as in young persons of 15.

If a lower standard of supply is taken (say 1000-1500 cu. ft. per hour), there will be a perceptible deficiency of purity, which will have to be made up by an hourly opening of the windows on the occasion of recess.

If the cubic contents of a schoolroom equal 200 cu. ft. per head, the entire air contents of the room will thus be renewed every four to six minutes. It is found by experience that the draught caused by the in-rushing air need not be troublesome in rooms which allow this amount of space per inmate. It is recommended that this be the average allowance of space.

In testing air for CO_2, it is important to take samples from the level of the pupils' heads, avoiding the admixture of the breath. If the condition of the air at that level is satisfactory, the end of ventilation has been gained.

The rapidity with which the air leaves the room may be ascertained by the use of the anemometer. In addition to this test it is desirable to apply the chemical test for comparing the discharged air with that of different parts of the room; for if the supply of fresh air is badly distributed, it may happen that in some parts of the room the currents are comparatively stagnant, and the air will grow more impure than the average of the room.

The animal impurities of the expired air (exclusive of CO_2) are probably, in part, of a poisonous nature. They, perhaps, include ptomaines as results of putrefactive decomposition. They are of infinitely more importance than the CO_2 which is associated with them; but they cannot be conveniently made the subjects of quantitative test. Hence, the CO_2 test is employed, as indicating with *probability* how much the air has been affected by respiration.

The mere removal of foul air, whether by stoves, fireplaces, or ventilating flues, accomplishes but one-half of the duty of ventilation. The other half consists in supplying a quantity of fresh air equal in bulk to that removed. It often happens that no special provision is made for this supply; in this case the entering air is drawn from many sources—out of doors, the halls, the closets, the cellars and indirectly from many undesirable places. Special ducts, therefore, are requisite for leading the pure outer air in large quantities to the schoolroom.

Such large quantities of air as are required can not be safely introduced without previous warming. But the rapidity with which the air is changed is so great that a high temperature is not required; as a rule, heating can be effectually performed with air not hotter than 100 degrees Fah. If the ventilation is sluggish, the air needs to be made correspondingly hotter in order to keep the room warm; but air thus over-heated is apt to have an odor which indicates that it has been in some way injured in the process.

The locality from which the air supply is drawn should of course be such as to avoid impurities—dust, smoke and bad smells.

A system of ventilation which is working well and sufficiently will produce a near equality of temperature in all parts of the room. The difference between the temperature at the floor level and that at five feet from the floor should not exceed 5 degrees.

A system is efficient in proportion as it maintains its activity under widely varying outside temperatures. Ventilation is needed at 40 degrees as much as at 0 degrees, but it is much harder to keep up a sufficient action in the former case. If the system is based on the draught of heated flues, some additional means for increasing the heat of the flues ought to be available for such mild weather.

The relative humidity of air commonly breathed in our winter climate is low, compared with that in western Europe. It becomes of necessity still lower when warmed. It is not, however, proved that the dryness thus obtained is generally prejudicial to health, either in schools or hospitals, although some individuals appear to require greater moisture. A part, if not the whole, of the unpleasant effect of breathing superheated air is due to the bad ventilation, and the excessive temperature.

The thermometer placed at five feet from the floor should mark an average of 65 to 70 degrees in our climate. This is considerably higher than is found desirable in Western Europe.

It is to be presumed that the entering air is warmer than that which leaves the room, since it contributes a fraction of its heat for the warming of the walls and windows. If intro-

duced at the upper part of the room, it will therefore fall towards the floor by degrees as it becomes cooled. Hence a level near the floor is a natural one for its exit. The proportion of CO_2 at the upper level of the room is not essentially different, on the average, from that in the lower part, and the level of the orifice of extraction is a matter of indifference as regards that point. If it be our object to get rid of superfluous heat, we should discharge the air from the top; this, however, is not to be considered normal or regular, but only to be applied when heat is excessive, as (for instance) in evening schools with artificial light.

It is possible to apply the above principles to the ventilating of the smallest school house. A single room can be heated with an upright cylinder stove of ordinary construction, having around it an air space enclosed by a jacket of sheet iron. In the floor beneath the stove an opening is made, connecting with a flue led to the outer air, through which there will be a rapid and abundant inflow of pure warmed air. The supply flue may run in two directions, so as to be exposed to different winds, and each point of opening should be guarded with a valve. For the escape of foul air, openings near the floor are made in the brick chimney-flue, which should stand at the far end of the room. The stove funnel is carried across the room into the chimney, and its heat insures an upward draught. Open grates and ordinary stoves are aids to ventilation, but perform only a small part of the duty required.

"Direct radiation," or the use of steam heaters in the rooms to be warmed, furnishes no supply of fresh air. If ventilation is fully provided for, as above described, direct heating is admissible as *supplemental* supply in exceptional cases; but as a rule its use is destructive of good ventilation.

Effective work can be done either by furnaces or by steam heaters in the cellar ("indirect radiation"). In both cases it is exceedingly desirable to provide liberally in respect to the size and power of the apparatus.

On the question of *economy* in ventilation, and the *necessary expense* of good ventilation, much may be said. A great amount of warm air is necessarily thrown away in ventilation. It is estimated that a very perfectly ventilated

building, filled with students, expends 50 per cent more coal than the same building empty and closed, the temperature being the same. This difference would be greatly lessened if we could compare the case of a well ventilated, occupied building with one badly ventilated and occupied; the latter wasting, as it does, a considerable amount of heat by open windows and by the over-heating which often accompanies bad ventilation. It is certain that the additional annual expense per pupil, of the best ventilation, need not exceed the price of one or two cheap lunches. The effect of perfect ventilation, where it has been tried, is to increase the pupil's power of work about 50 per cent which is a direct saving to the town that pays for his schooling To which must be added the gain in public health (which is not easily to be estimated), since a large percentage of school children are suffering at present a perceptible diminution of vigor from the effects of foul school air.

The employment of automatic regulators for keeping school rooms at an even temperature is recommended as both economical and healthful. Modern methods often uselessly overheat the cellar in which the furnaces stand. Waste steam from the boilers ought to be converted to the use of heating radiators. A liberal salary to janitors or engineers may insure a more intelligent control of the fuel.

The available methods for compelling air to move in ventilating flues are practically two: 1, the ascensive force of heated air; 2, fans driven by steam or electricity for forcing air into the room or drawing it out by "suction." For the former method, it is generally desirable to make available the otherwise wasted heat of smoke flues, by causing them to run into the foul-air-shaft.

D.—Personal Health.

1. A *minimum* age for entering primary schools may properly be stated as five completed years.

2. The program of daily work for little children should be widely different from that for older ones. A forenoon session may last three hours; but no exercise should last continuously more than fifteen or twenty minutes. There should be a

constant change of activity, passive attention alternating with active work; recesses of a few minutes coming very frequently, and recesses of fifteen or twenty minutes at least twice in the session. Adherence to one posture should be required for only a very few minutes at once. Singing should come in more than once during the session. If an afternoon session of two hours be added, the tasks should be lighter than the forenoon tasks. Two hours must intervene between the sessions. The total amount of task-work and recitation required in primary schools may equal half the nominal period of the sessions.

3. Young persons of both sexes at periods of rapid bodily growth, and especially at that of sexual development, not infrequently require special relief or rest from school-work, which in the case of girls may come at periodical intervals.

As the age of pupils gradually increases, the power of concentration and continuous work is strengthened. At the age of 14, *five* hours of sessions will be equivalent to *four* or *four and a half* hours of work, to which an hour of home study may be rightly added. The usual length of recitations at this age may be about half an hour; long recitations encourage listlessness. For pupils of full growth (18), eight hours of school sessions and home work is an average *maximum*. This does not exclude the possibility of a greater amount of work for limited periods in exceptional cases among advanced pupils in vigorous health. It is presumed in these estimates that the school has two half holidays or one whole holiday weekly.

4. The attention of teachers and parents should be called to the necessity for wholesome and sufficient meals for scholars: especially, breakfasts and lunches. The health of many children is supposed to suffer from over-study, when the chief cause of this mischief is neglect to eat a proper breakfast, or the substitution of pastry and sweets for plain lunch. The establishment of lunch counters for the sale of hot milk, cocoa and plain food would be very beneficial in the case of many city schools. Lunch is not a superfluity, but a necessity, in cases where long sessions and distant residences keep the pupils away from home five or six hours at a time.

5. The systems of calisthenics in common use—free-hand exercises in full classrooms, for five minutes at a time—serve a very useful purpose as a partial relaxation, but are quite inadequate, considered as a means of bodily development. For the latter purpose, gymnastic training of a more serious kind is very desirable. Its influence is felt in the development of the mental faculties; it adds force and firmness to the moral nature; it furnishes an important correction of those depressant influences of city life, which have a tendency to lower the vitality of millions of our population at the present time. It is hoped that the systematic teaching of gymnastics to all our public school children may soon become an indispensable part of the school course, but it must always be remembered that the more violent athletic sports tend to heart strain and other disabilities that shorten life.

6. The habit of constipation is often acquired as a result of deprivation of bodily freedom, and confinement to a stooping or sitting posture, together with the mental tension of school work and the sense of constraint. In order to avoid this great evil and its frequent attendant, dyspepsia, it is desirable to give recess with liberty of play out of doors, as often as is convenient. This is especially applicable to young children. Retention of urine now and then occurs under too strict school discipline, and may work serious injury. The friendly oversight of a teacher at recess is desirable, often indispensable.

E—EYESIGHT.

The eyes are often affected injuriously by school work carried to excess, or conducted amid unwholesome surroundings. There is a strong tendency to the production of near-sightedness; which can, to a great extent, be remedied by the avoidance of known causes. Among the direct causes of near-sight are—bad light, bad position at work, too protracted work, bad print; and to these must be added, as indirect causes, bad ventilation and heating, poor food, and whatever impairs the vigor of health.

Light in schoolrooms should never strike the pupil in the face while at work.

Excess of light is less common than deficiency, but is also harmful. No desk can be more than twenty feet from the windows of an ordinary schoolroom (supposing the top of the windows to reach the height of about twelve feet from the floor) without impairing the light.

A stooping position, and the wearing of tight neck-clothing, while at work, are injurious to the eyes.

To prevent scholars from taking bad positions in writing, it is recommended that children be directed to sit upright, facing the desk squarely, and be taught vertical writing. Also, that desks be slightly inclined; their front edge to overlap the edge of the seat a little; and the height to be such that the forearm easily passes over it. Seats ought to support the back and shoulders in reading, without favoring a tendency to lounge. The foot must rest firmly on the floor or on a foot-rest. The average graded school requires three sizes of desks and seats to each room.

The habit of holding work too near the eyes strains them and fosters a tendency to neat-sight. For the youngest children, this distance should be not less than 25 cm.= 10 inches; for those of 8 to 10 years, 33 cm. = 14 inches. Badly proportioned desks and seats, especially where they are too far apart, favor this habit.

The eyes should have some rest from tasks every half-hour. Fine embroidery, fine detail in map-drawing, or penmanship, and the use of fine type, must be discouraged.

Such defects as far-sight, astigmatism, and affections of the muscles of the eye, are rather common in school children; they often cause headache and other forms of illness. The remedy lies in the use of suitable glasses as prescribed by physicians. Test-types may properly be used by teachers to ascertain what scholars have marked defects of sight.

F—SANITARY ADMINISTRATION OF SCHOOLS.

The duties comprised under this head may properly be intrusted to one man in small places; in large towns a division of work will be necessary. The officer upon whom the charge is laid—or in all cases, the chief officer—must be a well-educated physician, with a special and practical knowledge of

sanitary science. He should be appointed by the school authorities. He is here designated the medical school officer. It is the duty of this officer to satisfy himself (by personal inspection, if necessary) that all children admitted to school are protected, either by successful vaccination or a previous attack of the disease, against smallpox. He should also formulate, and have power to enforce, in conjunction with the State or municipal health officers, regulations to prevent the dissemination of infectious diseases throughout the schools.

All plans for school buildings, premises and appliances should be submitted to his approval in sanitary points. Personally or by deputy he should examine all buildings and premises, with reference to the arrangements for ventilation and heating, size and lighting of rooms, furniture, water closets, urinals, drains, plumbing, water supply, safety from fire, and other points affecting health or safety. He should have the right of entrance at all times, and should be armed with ample powers.

The medical school officer should give to teachers personal instruction, of a practical kind, embracing: 1, an explanation of the existing sanitary regulations, with such physiological reasons and comments as may seem called for; 2, explanation of the sanitary arrangements existing in the schools, their practical management, and so much of the theory as may seem desirable; 3, explanation of the structure and use of the eye, and other parts of the bodily frame, with remarks on food, clothing, recess, study and kindred topics, so far as it seems to him desirable and useful to enter upon such considerations.

The said officer has medical authority in cases of immediate exigency, but is not authorized or expected to bestow further medical care as a part of his official duty. The extent to which personal medical *inspection* of scholars is made, and individual medical *advice* is given, must vary much with different classes of the population. It is not susceptible of extended adoption at present in America.

BIBLIOGRAPHY.

The following is a continuation of the English bibliography on the subject of Child-Study, begun in Vol. 1., No. 2 (See Handbook, page 80). It is the aim of this bibliography, which will be continued from time to time, to furnish references especially for those who have access to but limited library and reading facilities, to call attention to articles and works that may possibly be within their reach. At the same time the bibliography will be found valuable for all. It cannot, under the present circumstamces, however, aim at anything more than approximate efficiency, since it is impossible as yet to arrive at a logical classification, or to indicate the relative value of the references. These functions the user must perform for himself. It is not claimed that the bibliographies of this and the preceding number are complete. The secretary of the Society will be thankful to have his attention called to any errors or omissions, either by authors, editors or others.

I. Child-Study in General.

(See page 80, Handbook.)

"A Preliminary Sketch of the Hist. of Ch. St. in Am.," Sara E. Wiltse, Ped. Sem. Vol. III, No. 2.

"Hints on Child-Study," Charles H. Thurber, Dept. of Public Instruction, State of New York. Document No. 1.

"The Value of Child-Study for Teachers," M. V. O'Shea, series of articles in the Intelligence, June 15, 1895, Sept. 1, 1895, and Oct. 1, 1895.

"Child Study," C. C. Van Liew, Series in Ed. Extension, vol. 1, Nos. 1, 2, 3 4, etc. Ypsilanti. Mich.

"The Child in Primitive Nature," Dr. A. F. Chamberlain. In press.

"Suggestions on the Study of Children," Dr. Wm. L. Bryan, Inland Educator, August and September, 1895. Terre Haute, Ind.

"Differences in Children from the Teacher's Point of View," J. Mark Baldwin, The Inland Educator, Aug. and Dec., 1895, Terre Haute, Ind.

"Mind Studies," Allen, N. Y.

"Hints for Scientific Observation and Study of Ch.," Mrs. F. Adler.

"Child-Study," Series of two articles by Dr. C. C. Van Liew, The Inter-State School Review, June and July, 1895.

"Psychometric Investigations," by F. W. Dodel, Mind and Body, July, '94.

"Suggestions to those beginning Systematic Observation of Children," Dr. A. Meyer, The Child-Study Monthly, June, 1895.

"On the Observation of Mental Abnormalities in School Children," Dr. A. Meyer, The Child-Study Monthly, May, 1895.

"Child-Study—Systematic and Unsystematic," Dr. Wm. L. Bryan, The Child-Study Monthly, May, 1895.
"Child-Study," Laing, Forum, May, 1894.
"Methods of Laboratory Mind Study," Forum, vol. 17, page 721.
"The New Psych. as a Basis of Education," G. S. Hall, Forum, vol. 17, page 710.
"Practical Child-Study," G. S. Hall, Journal of Ed., vol. 40, page 391.
"Child-Study," issued by the Department of Public Instruction, Iowa.
"Service of Psychology to Education," Sully, Ed. Review, Nov., 1892.
"Studies in Childhood," James Sully, Series I.-XI., vol. 45, 46, 47, Nos. 267-279, Pop. Sci. Monthly.
"Notes on Educational Method," Wolfe, Ed. Review, June, 1892.
"Test on Shool Children," E. W. Scripture, Ed. Review, Jan., 1893.
"Paidology or Child-Study," Iowa Normal Monthly, May, 1894.
"Method and Scope of Child-Study for Teachers in Service," M. V. O'Shea, Add. and Proc. N. E. A., 1895.
"Is Child-Study Practical for the Teacher?", G. T. W. Patrick, Add. and Proc. N. E. A., 1895.
"Child-Study with the Coöperation of Parents," Dr. C. C. Van Liew, Add. and Proc. of N. E. A., 1895, and Child-Study Monthly, vol. 1, No. 3.
"Some Results of Child-Study Work in Illinois, and their Value to the Teachers in Service," Dr. W. O. Krohn, Add. and Proc. N. E. A., '95.
"Address on Child-Study," Earl Barnes, Add. and Proc. N. E. A., 1895.
"Methods of Child-Study and their Comparative Values for the Teacher," Dr. E. R. Shaw, Add. and Proc. of N. E. A., 1895.
"Reports of Child-Study Work in the several States," Iowa, H. E. Kratz; Minn., M. V. O'Shea; N Y., E. R. Shaw; Cal., Earl Barnes; Ind., Wm. L. Bryan; Add. and Proc. of N. E. A., 1895.
"The Practical in Physiological Psychology," George P. Brown, Pub. School Journal, March, 1895.
"The Old Psychology vs. the New," Dr. W. T. Harris, Pub. School Journal, June, 1895.
"A Plea for the Study of Pediatrics," W. S. Chistopher, M.D., Am. Journal of Obstetrics, vol. 29, No. 1, 1894, and in reprint.
"Pediatrics as a Specialty," S. W. Christopher, M.D., Journal of Am. Med. Assn., Nov. 17, 1894, and in reprint.
"Studies of Childhood," James Sully, The Interstate School Review, Oct., 1895, and following.
"Practical Child-Study," A. D. Cromwell, W. M. Welch & Co., Chicago.
"Methods and Difficulties of Child-Study," Annie H. Barus, Forum, Sept., 1895.
"Child-Study, Youth and New Education," Hall-Pease, Journal of Ed., Chicago and N. Y., Sept. 19, 1895.
"Topical Syllabi for Child-Study," New Series, 1895-6, G. S. Hall, and H. T. Lukens, Worcester, Mass.
"The Study of Children in America," Earl Barnes, in "The Advance in Education," Nov., '95.
"Method and Scope of Child-Study for Teachers in Service," M. V. O'Shea, Child-Study Monthly, vol. 1, No. 5.
"Child-Study in Schools for Feeble-Minded Children," Dr. W. O. Krohn, Child Study Monthly, vol. 1, No. 3.

II. Useful Works in Psychology.

(See page 81, Handbook.)

"Inductive Psychology," E. A Kirkpatrick (Chapter on Child-Study contains outlines).
"The Psychology of Attention," Ribot, Chicago, 1894.
"Outlines of Psychology," J. Sully, esp. chap. II.
"Psychology," Gordy.
"Psychology in Education," Roark.
"Lectures on Human and Animal Psychol.," W. Wundt, N. Y., 1894.
"Primer of Psychology," Ladd, N. Y., 1894.

III. The Development of Children.

(See page 81, Handbook.)

"The Child," Kriege, Steiger, 1872.
"The Primitive Child," Robinson, No. Am. Rev., vol. 159, page 467.
"Heredity in Relation to Education," Mills, Pop. Sci. Mo , vol. 44, p. 472.
"The Culture Epochs," C. C. Van Liew, First Year Book of Herbart Society for the Scientific Study of Teaching, Bloomington, 1895.
"Boyhood, Adolesence and Youth," L. Tolstoi, London.
"Culture Epochs in Child and Race," A. Tompkins, Child-Study Monthly, vol. 1, No 5.
"Heredity and Idiocy," Child-Study Monthly, vol. 1, No. 5.

IV. Some Physical Aspects of Child-Study.

(See page 82, Handbook.)

"The Nutritional Element in the Causation of Neurosis," S. W. Christopher, M.D., Archives of Pediatrics, 1894, and in reprint.
"Some Physiological Considerations in the Arrangements of a System of School Gymnastics," Hans Ballin, Mind and Body, May, 1895. Milwaukee.
"The Relation of Strength to Flexibility in the Hands of Men and Children," T. A. Hancock, Ped. Sem., Vol. III, No. 2.
"Causes and Prevention of Lateral Curvature of the Spine and Near-Sightedness," by Dr. Edward Luehr, Mind and Body, Sept., 1894, Milwaukee.
"The Critical Period of School Life," by Dr. W. O. Krohn, The Child-Study Monthly, June, 1895.
"Habitual Postures of School Children," W. O. Krohn, The Child-Study Monthly, Oct., 1895.
"Physiognomy and Expression," Mantagazza.
"The Nervous System and its Relation to Education," J. Ferguson, Pop. Sci. Monthly, Aug., 1895.
"The Growth of the Brain," H. H. Donaldson, London, 1895.

V. Mental Development.

(See pages 82 and 83, Handbook.)

"What Children Draw to Please Themselves," Louise M. Maitland, The Inland Ed , "Children's Collections," G. S. Hall, vol. 1, No. 2, Sept., 1894.
"Children's Imaginary Compositions," Earl Barnes, in The Sequoia, and in reprint.
"Visible World of a Little Child," M. Shinn, Univ. of Cal. Mag., March, 1895.
"A Study of the Mathematical Consciousness," Calkins, Ed. Review, Oct., 1894.
"The Art of Little Children," Mrs. L. Maitland, Ped. Sem., vol. III, No. 2.
"How the Man got in the Moon," Marian B. Levy, Ped. Sem., vol. III, No. 2.
"Diseases of Personality," Ribot, Open Court Pub. Co , Chicago, 1895.
"The Emotional Life of Children," Wellesley Col. Psych Studies, Mary W. Calkins, Ped. Sem., vol. III., No. 2.
"Children's Questions," Pop. Sci. Monthly, vol. 43, page 57.
"About the Minds of Little Children," Education, vol. 6, page 26.
"Mind Education," A. T. Smith, Westchester, Pa.
"Plan of Study on Children's Hopes," C. H. Thurber, Dept. of Pub. Inst., State of New York, Division of Child-Study.
"Imitation in Childhood," Prof. Baldwin, Add. and Proc. N. E. A., 1895.
"Children's Plays," G. Sisson and E. Barnes in the Pacific Ed. Journal, June, 1894.
"Punishment as seen by Children," E. Barnes, Ped. Sem , vol. III, No. 2.
"Why Children Lie," Nathan Oppenheim, Pop. Sci. Monthly, July, 1895.
"A Study of Imaginary Companions," Clara Vostrovsky, Ed , March, '95.
"Children's Punishments," Add. and Proc. N. E. A , 1895, Earl Barnes.

"Child-Study—Systematic and Unsystematic," Dr. Wm. L. Bryan, The Child-Study Monthly, May, 1895.
"Child-Study," Laing, Forum, May, 1894.
"Methods of Laboratory Mind Study," Forum, vol. 17, page 721.
"The New Psych. as a Basis of Education," G. S. Hall, Forum, vol. 17, page 710.
"Practical Child-Study," G. S. Hall, Journal of Ed., vol. 40, page 391.
"Child-Study," issued by the Department of Public Instruction, Iowa.
"Service of Psychology to Education," Sully, Ed. Review, Nov., 1892.
"Studies in Childhood," James Sully, Series I.-XI., vol. 45, 46, 47, Nos. 267-279, Pop. Sci. Monthly.
"Notes on Educational Method," Wolfe, Ed. Review, June, 1892.
"Test on Shool Children," E. W. Scripture, Ed. Review, Jan., 1893.
"Paidology or Child-Study," Iowa Normal Monthly, May, 1894.
"Method and Scope of Child-Study for Teachers in Service," M. V. O'Shea, Add. and Proc. N. E. A., 1895.
"Is Child-Study Practical for the Teacher?", G. T. W. Patrick, Add. and Proc. N. E. A., 1895.
"Child-Study with the Coöperation of Parents," Dr. C. C. Van Liew, Add. and Proc. of N. E. A., 1895, and Child-Study Monthly, vol. 1, No. 3.
"Some Results of Child-Study Work in Illinois, and their Value to the Teachers in Service," Dr. W. O. Krohn, Add. and Proc. N. E. A., '95.
"Address on Child-Study," Earl Barnes, Add. and Proc. N. E. A., 1895.
"Methods of Child-Study and their Comparative Values for the Teacher," Dr. E. R. Shaw, Add. and Proc. of N. E. A., 1895.
"Reports of Child-Study Work in the several States," Iowa, H. E. Kratz; Minn., M. V. O'Shea; N Y., E. R. Shaw; Cal., Earl Barnes; Ind., Wm. L. Bryan; Add. and Proc. of N. E. A., 1895.
"The Practical in Physiological Psychology," George P. Brown, Pub. School Journal, March, 1895.
"The Old Psychology vs. the New," Dr. W. T. Harris, Pub. School Journal, June, 1895.
"A Plea for the Study of Pediatrics," W. S. Chistopher, M.D., Am. Journal of Obstetrics, vol. 29, No. 1, 1894, and in reprint.
"Pediatrics as a Specialty," S. W. Christopher, M.D., Journal of Am. Med. Assn., Nov. 17, 1894, and in reprint.
"Studies of Childhood," James Sully, The Interstate School Review, Oct., 1895, and following.
"Practical Child-Study," A. D. Cromwell, W. M. Welch & Co., Chicago.
"Methods and Difficulties of Child-Study," Annie H. Barus, Forum, Sept., 1895.
"Child-Study, Youth and New Education," Hall-Pease, Journal of Ed., Chicago and N. Y., Sept. 19, 1895.
"Topical Syllabi for Child-Study," New Series, 1895-6, G. S. Hall, and H. T. Lukens, Worcester, Mass.
"The Study of Children in America," Earl Barnes, in "The Advance in Education," Nov., '95.
"Method and Scope of Child-Study for Teachers in Service," M. V. O'Shea, Child-Study Monthly, vol. 1, No. 5.
"Child-Study in Schools for Feeble-Minded Children," Dr. W. O. Krohn, Child Study Monthly, vol. 1, No. 3.

II. Useful Works in Psychology.

(See page 81, Handbook.)

"Inductive Psychology," E. A Kirkpatrick (Chapter on Child-Study contains outlines).
"The Psychology of Attention," Ribot, Chicago, 1894.
"Outlines of Psychology," J. Sully, esp. chap. II.
"Psychology," Gordy.
"Psychology in Education," Roark.
"Lectures on Human and Animal Psychol.," W. Wundt, N. Y., 1894.
"Primer of Psychology," Ladd, N. Y., 1894.

IX. Social Aspects of Child-Study.

(See page 86, Handbook.)

"Second Annual Report of the Factory Inspectors of Ill.," Mrs. Florence Kelley.
"The State and its Children," G. M. Tuckwell, London, 1894.
"Some Sources of the Dependent Classes," Dr. Bayard Holmes, Child-Study Monthly, Oct., 1895.
"Unsanitary Schools and Public Indifference," D. H. Stewart, Forum, Sept., 1895.
"The Factory Children," Economic Rev., July, 1895.

X. Ed. and other Journals More or Less Devoted to Child-Study Topics.

"Pacific Ed. Journal."
"Kindergarten Magazine," ed. by Andrea and Amalie Hofer, pub. by Kinderg. Lit. Co., Chicago.
"Education Extension," P. A. Cleary, pub. by Cleary Pub. Co., See Child-Study Dept. ed. by C. C. Van Liew.
"Inter-State School Review," ed. by Lottie Jones, Danville, Ill.
"The Inland Educator," ed. by Francis M. Stalker and Charles M. Curry, pub. by Inland Pub. Co., Terre Haute, Ind.
"The Child-Study Monthly," ed. by Dr. W. O. Krohn, pub. by The Werner Co., Chicago-New York.
"American Journal of Psychology," ed. by G. Stanley Hall, Worcester, Mass.
"Mind and Body," A Monthly Journal devoted to Physical Education, Ed. Com. Karl Kroh, Chicago, Wm. Stitcher, St. Louis, and Hans Ballin, Carbondale, Ill. Freidenker Pub. Co., Milwaukee, Wis.
"Psychological Review," N. Y., ed. by J. M. Baldwin and others.
"Educational Review," ed. by Dr. N. M. Butler, N. Y
"Public School Journal," Geo. P. Brown, Bloomington, Ill
"The Intelligence," E. O. Vaile, Oak Park, Ill.
"Pedagogical Seminary," Dr. G. Stanley Hall, Worcester, Mass.
"Mind," London.
"Education," Boston.
"The Advance in Education," Ed. by P. W. Search, Los Angeles, Cal. Devoted to the Conservation of the Individual in Mass Education.

XI. Education in the Light of Child-Study Research.

"Application of the Laws of Physical Training for the Prevention and Cure of Stuttering," Dr. E. M. Hartwell, Add. and Proc. of Inter. Cong. of Ed., Chicago, 1893.
"Moral Ed. and Will Training," G. S. Hall, Ped. Sem., vol. II, No. 1.
"A System of Physical Training," Carl Betz, Bk. 4. Pop. Gymn.
"Kindergarten and Elementary School," C. C. Van Liew, Ed. Rev., vol. 9, page 172.
"Ed. Value of Play," J. L. Hughes, Ed. Rev., vol 8, page 327.
"Teaching Truth," Dr. Mary Wood-Allen, Ann Arbor, Mich.
"Child Confidence Rewarded," Dr. Mary Wood-Allen, Ann Arbor, Mich.
"Almost a Man," Dr. Mary Wood-Allen, Ann Arbor, Mich.
"Ped. Value of Number Forms," Hornbrook, Ed. Rev., May, 1893.
"The Child: His Studies and Occupations, and Drawing in Primary Schools," by T. G. Rooper, N. Y., 1895.
"Cause and Effect in Education." Henderson, Pop. Sci. Mo., vol. 45, p. 51.
"Kindergarten a Natural System of Education," Hughes, Pop. Sci. Mo., vol. 45, page 207.
"Natural or Scientific Method in Education," Mills, Pop. Sci. Mo., vol. 42, page 1.
"The Mother's Friend," Mag. ed. by Dr. Mary Wood-Allen, Ann Arbor, Mich.
"Gentle Measures in Training of Young," Abbott, Harper, 1871.
"Symbolic Education," Blow, Appleton, 1894.
"Ethical Training of Children," Hyde, Andover Rev., vol. 17, page 124.

"The Young Folks' Cyclopedia of Games and Sports," J. D. Champlin, jr., and Arthur E. Bostwick, N. Y., 1890.
"Ed. by Plays and Games," G. E. Johnson, Ped. Sem., vol. III., page 1.
"The Manual Training School," Woodward, D. C. Heath & Co., Boston, 1887.
"Ed. in Rel. to Man.-Industry," McArthur, D. Appleton & Co., N. Y.
"Man. Training and Public Schools," Belfield, Industr. Ed. As'sn, N. Y.
"Phys. Exercises of Play-Ground," C. Carl Betz, Chicago, 1894.
"Illustrated Man. of Hand and Eye Training," Dr. W. Goetze, London, 1894.
"The Care of Children," Eliz. R. Scovil, Phil., 1895.
"Almost Fourteen," Mortimer A. Warren, N. Y., 1893.
"The Care and Feeding of Children," G. L. Enimit, Holt, N. Y., 1894.
"Manual Training in Elementaay Schools for Boys," Sluys, Industr. Ed. Ass'n, N. Y.
"Industrial Education," Magnus, Paul & Co., London, 1888.
"Love of Nat. as Root of Teaching and Learning the Sciences," Wm. A. Hoyt, Ped. Sem., vol. III, No. 2.
"Moral and Religious Training of Children and Adolescents," G. Stanley Hall, Ped. Sem., vol. I., No. 2.
"Punishment of Children," M. M Mangasarian, Internat. Jour. of Ethics, vol. 4, p. 493.
"Ed. of Ch.," Mary Carpenter, Trans. Soc. Sci., London, 1866, 348, M. Carpenter (et al.), Trans. Soc. Sci., London, 1862, 299. B. Lambert and A. W. Worthington, Trans., Soc. Sci., London, 1871, 342.
"Reformation of Children," Boutwell, Educ. Topics, 1875.
"Child Nurture," J. M. Gibson, Lund. Mag., vol. 23, 373.
"Games and Songs of Am. Children," W. W. Newell, N. Y., Harpers, 1884.
"Ed. of Pauper Children," E. C. Tufnell, M. Carpenter, Trans. Soc. Sci., London, 1863, page 278.
"Ed. of Children," C. D. Wright, Mass. Labor, 1875, page 11.
"School Hours of Chil.," Higginson, Out door, 1877.
"Some Association Tracks Involved in Reading and Writing," T. M. Balliet, Add. and Proc. of Internat. Cong. of Ed., Chicago, 1893.
"Truants and Incorrigibles," E. P. Seaven, Ed. Rev., VII, 423.
"Art in Early Education," Mary D. Hicks, Ped. Sem., II, 3.
"Nervous Children and How to Help Them," Grace C. Kempton, Inter-State School Review, Oct., 1895.
"Temperament in Education," Allen.
"Compulsion in Child Training," C. H. Parkhurst, Ladies' Home Journal, Sept., 1895.
"The Training of a Child," C. H. Parkhurst, Ladies' Home Journal, Aug., 1895.
"Substitution of Teachers for Text Book," J. M Rice, M.D., Forum, July, 1895.
"The Right of the Child," B. O. Flower, Arena, July, 1895.
"Child-Life and the Kindergarten," F. B. Vrooman, Arena, July, 1895.
"The Educational Ideal," J. P. Munroe, D. C. Heath & Co., N. Y, 1895, $1.00.
"Physical Training in Public Schools," Hon. Richard Bartholdt, Mind and Body, Sept. and Oct., 1895.
"The Activity of Little Children Must be Directed," Anne E. Allen, Mind and Body, Oct., 1895.
"A Study of the Ed. Value of 1,000 Classified Games and Plays," G. E. Johnson.
"Study of Toys," Eliza Harrison, Chicago.
"Classics for Children," Julia G. Gayley, Ped. Sem., vol. III, No. 2.
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THE ILLINOIS SOCIETY FOR CHILD-STUDY

RESULTS OF CHILD-STUDY APPLIED TO EDUCATION

LETTERS FROM EMINENT SCIENTISTS

EDITED BY
FRANCIS W. PARKER
President

CHICAGO NEW YORK
WERNER SCHOOL BOOK COMPANY

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RESULTS OF CHILD-STUDY APPLIED TO EDUCATION.

The following is the substance of the request sent to Child-Study scientists:

"The Executive Committee of the Illinois State Teachers' Association, which meets during the Christmas holidays, has commissioned me to make inquiry of all the prominent students of Child-Study, Rational and Physiological Psychology, in regard to what may be considered foregone conclusions, if there are any; in other words, what principles or directions should now be applied to the teaching and treatment of children in the schools.

The form of the questions may be as follows:

(1) If we, as teachers, were to apply the already acquired results in Child-Study, in teaching and treatment of children, what prevailing methods would be inhibited?

(2) What principles, methods or devices, for the teaching and treatment of pupils, not now in common use, should, in your opinion, be taken as fundamental and authoritative, and applied in school work?"

ANSWERS.

FROM PROF. W. REIN, UNIVERSITY OF JENA, GERMANY, DIRECTOR OF TEACHERS' TRAINING SCHOOL.

In reply to the questions put, I would make the following brief remarks:

First.—If the judgment of the teacher has been psychologically schooled he will seek to adapt all of his measures, both in guidance and in instruction, to the nature of the child-mind. The study of the development of the child will give him valuable hints to that end. Recent pedagogics have sought to do away, especially in the shaping of the work of instruction, with all false methods which do violence to the nature of the child-mind. Such false methods are attempted wherever the child is drilled to the end that he may acquire a given amount of examinable knowledge. In this process no genuine mental culture can ensue because the natural interests are thereby repressed and suppressed. The teacher has not the natural growth of the child in mind but merely the practical utility of the knowledge. Of what aid is all child psychology as long as the utilitarian standpoint is alone determinative?

Second.—Of what aid is the study of the child, if every year the teacher changes with the children? How can the teacher, who has new children before him every year, educate? Under such an arrangement all study is *pro nihilo*. If child psychology is to become effective in our schools then the completion of all the grades by the same teacher must be required (Compare article "Durch Führung der Jahrgänge" in Rein's "Encyklopädie"). Recent pedagogics and didactics rest throughout on psychological methods. Herbart gave an excellent example in his reports to the Herrn von Steiger:—First, analysis of the child's mental condition; then adapta-

tion of the right measures, of the right choice of material and of the right presentation of the material. What are the doctrines of the Culture Epoch arrangement of material, of concentration, and of the formal steps of instruction other than the application of results that have been obtained through the study of the child? Hence we speak of a psychological method, which can only become abundantly fruitful in practice, however, when the external conditions of instruction (for example in the arrangement of the grades) are determined in accordance with it. Of course the teachers must be right first.

I am sorry to say that on this short notice I can not answer your questions so completely as I wish. However, I send you a list of the principal works that have appeared in Germany.

List of Works and Articles Having Reference to Child Psychology.

B. Goltz: "Buch der Kindheit," Berlin, 1847.

L bisch: "Entwicklung der Seele des Kindes," 1851.

Siegismund: "Kind und Welt," 1856.

Hennig: "Das Kind," Leipsic, 1876.

Meyer: "Das Kind," Leipsic, 1862.

Jahrbuch des Vereins für Wissenschaftliche Pädagogik, IV, VIII, XVIII, XIX, Dresden.

Hartmann: "Analyse des Kindlichen Gedankenkreises," Annaberg, 1891.

Rein: Encyklopädisches Handbuch der Pädagogik, -Schubert "Beobachtung der Kinder" and "Elternfragen."

Siegert: Periodicität in der Entwicklung der Kindesnatur, Leipsic, 1891.

Siegert: "Problematische Kindesnaturen," Leipsic, Voigtland.

Siegert: "Problem der Kinderselbstmorde," Leipsic, Voigtland.

Koch: "Psychopathische Minderwertigkeiten," 1891.

Trüper: "Psychopatische Minderwertigkeiten," 1893.

Scholz: "Characterfehler des Kindes," Leipsic, 1891.

Bergmann: "Statischtische Erhebungen," Weimar, 1891.

Rein: "Aus dem Pädagogischen Universitäts-seminar," V, Langensalza.

Durussow: "Erste Erziehung," Strassburg, 1891.

Lehmensick: "Praxis der Erzeihungsschule von Dr. Just," 1888.

Heydner: "Zur Kenntnis des Kindlichen Seelenlebens," Nürnberg, 1888.

Stiehler: "Das Lied, als Gefühlsausdruck," Altenburg, 1890.

A. Keber: "Zur Philosophie der Kindersprache," 3 Auflage.

W. REIN.

Jena, Oct. 23, 1895.

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*The translator desires to add that in Prof. Rein's Practice School, the lines of Child-Study regularly undertaken are those of known direct pedagogical service—especially Questions to Parents (Elternfragen), Analysis of Child's Mental Status on entering school, and sketches of individual characters. C. C. VAN LIEW.

FROM DR. FRANCIS WARNER, LONDON HOSPITAL COLLEGE, LONDON, ENGLAND.

In reply to your letter of September 25th, I am much interested in the Illinois Society for Child-Study, and shall be glad to afford any results of experience in the scientific study of mental and physical conditions in school children. May I suggest that description of the children as you see them should be the basis of your work. A fall report on 100,000 children whom I have examined in schools, is about to be issued by our committee (72 Margaret St., London W.) explaining fully methods of observation and the points observed and described. In collective study of children the great want has been definition of points in observation and consequent inexactness in description and classification. In any case, records of boys and girls should be classed separately as they differ greatly, each sex having its own aptitudes, potentialities and weaknesses.

I would suggest, therefore, the importance of having your observers look for simple points in all children, describing points seen, not their general impressions of the condition or actions of the child. Of course, after such exact description a general account as to conduct, character and ability may be added with advantage.

I think the accurate description of children seen should in part replace psychology (metaphysical) in the training of a teacher. Many accounts of special methods of training children do not afford convincing evidence of success owing to absence of an exact account of the children so trained. In any such comparative educational question, we need to compare educational method as it affects groups of children similar in mental and physical constitution, rather than children of the same social class.

In reply to your first question.—1. Suppression of spontaneous movements in young children,—say under 8 years,—

for more than a minute or two is likely to be followed by inhibition of the mental activity which you wish to co-ordinate. 2. Discipline by commands; i.e., through child's ear, should as much as possible be replaced by control through child's eye,—imitation of teacher, a sign in place of verbal command,—as is necessary with deaf children, and well carried out by the teachers. 3. Children incapable of ordinary training through affliction or mental inability should not be sent away from school or allowed to be absent, but special provision made for them and honor placed on their care.

Question number two.—In physical training let it be adapted in great part to co-ordinate brain action and mainly effected by imitation of the teacher's movements. Gymnastics needed also for older children. Begin by training the child's eye movements. Get child to look at objects, especially those being described, *e.g.*, the blackboard demonstration, looking at it, *not* at the teacher. Children often learn sums before they can count objects; money sums before they can use money.

These are, in brief, the principles I would advocate.

Yours very faithfully,

FRANCIS WARNER.

FROM DR. FREDERICK TRACY, UNIVERSITY OF TORONTO, TORONTO, ONTARIO, CANADA.

It is with very great diffidence that I venture to offer any suggestions in response to your letter of September 25th; partly because very few generalizations can as yet be made; and partly because I imagine that my suggestions, so far as they are correct, will have been axiomatic with you for many a day already. I might hazard the following:

(1) It seems settled that children possess very inferior control over their own movements, as compared with those of the adult. Speaking roughly, the ability to hold the muscles steady, and perform fine and delicate movements, is in inverse proportion to the child's age. In our demands upon the child, we should always keep this fact in view.

(2) It seems settled that hereditary endowment and early environment are exceedingly potent factors in the development of the child's character. Would it not be very helpful then to the teacher in his work, if he could by some means, obtain a fuller knowledge than is usual of the antecedents and early environment of each child with whom he has to deal?

I shall be pleased indeed if you should find these suggestions of any value.

Yours very truly,

F. TRACY.

University of Toronto.

FROM DR. G. STANLEY HALL, PRESIDENT CLARK UNIVERSITY, WORCESTER, MASS.

The chief good, so far, is calling attention to the individual child. It has caused this great trend that way and against mass teaching, among all teachers who ever heard of child-study even. It has increased interest in children out of school and thus developed sympathy and tact. This I think we can see in thousands of teachers who have never actually undertaken the study of children. I am often told that it makes families more interesting and gives a new charm and attraction to home life. If this be true in our American world, it is a great thing. Again, it shows teachers how very small a part of the total education of a child the school curriculum is; how complex the child's nature, and how lovable above all things else in the universe.

As to special points, we see the direct evil of small work in the kindergarten, and the data for considerable reconstruction of Froebel is at hand, and we are trying to begin it this year. This topic needs a book.

Again, it has brought out the psycho-physiology of adolescence which is the central point of religion and education, where it all began and from which it differentiated up and down. Another book here, please.

Once more, it has introduced evolution into the study of the human soul for the first time and thus begun a movement bigger than Darwinism, which will eventually shelve our cross section adult psychology beside the old biological literature on fixed species.

In general, it shows us that education is applied biology, and that there is no standard of values, no possible philosophy of education except the nature and needs of the growing child. A new philosophy of education here. Why do no American psychologists see the bearing of these things?

Very truly yours,

G. STANLEY HALL.

Clark University.

FROM DR. J. MARK BALDWIN, PRINCETON COLLEGE, PRINCETON, N. J.

QUESTION I.

A. The present methods of classifying students in the schools of all grades should be thoroughly overhauled. Children should not be classed together on the basis merely of written or oral examinations.

B. The whole method of examination, both at entrance and afterwards, is now bad.

C. Children should be individualized much more than they are. Treatment *en masse* should never be allowed, merely because it is more convenient; nor ever, except (1) in the most general exercises, such as reading or reciting in concert, and (2) in exercises especially designed to instruct or train the social nature. For example, it is very bad to write a "copy" on the board and require all or a number of the scholars to copy it while the teacher makes comparisons among the results.

D. There should be a reform in the setting of lessons as regards length, time allowed for preparation, amount of assistance given, etc. All these things should be matters of adaptation to the single child. And publicity in exposing the failures of the scholars makes this abuse much worse.

E. The miscellaneous distribution of children — such as seating them in alphabetical order without regard to the favorable positions as to light, angle of observation of the teacher, etc. — should be stopped; also their distribution as to proximity to each other in their seats, recitations, etc., without regard to their social influence upon one another.

F. Most — not to go into detail — of the current methods of punishment should be abolished.

Note on Question I. Many of the particular criticisms to be passed on the usages of the schools — criticisms of which the points above are most general statements — become more clear from the recommendations of a positive kind which follow in answer to Question II.

QUESTION II.

A. As far as classifications of children are necessary on entering school, and at other times, they should proceed on certain lines; *i. e.*, (1) every examination, whether written or oral, should have a series of questions, each of which is designed to bring out the scholar's aptitude for a particular line of mental work. There should be one question or more, testing memory mainly, another testing the faculty of observation, a third calling in question the logical faculty, etc., etc. The examiner will then have, in the answers, indications of the pupil's strong and weak points. In cases where it is convenient, the same examination should be given both orally and in writing, so that the better method of examining the individual scholar may be discovered. Oral examinations, and for many scholars, all recitations, should be at first in private, the publicity of the school being only gradually made allowable.

B. The teacher should have sufficient knowledge of psychology, and should aim to get sufficient knowledge of the pupil, to discover whether he is motor or sensory in his mental type. (I have indicated in the *Inland Educator*, Terre Haute, Ind., No. 1, the lines of distinction between pupils in this respect, together with the general modes of treatment which the child of each type ought to receive.)

C. The methods of instruction should not run in ruts, either for economy of effort to the teacher, or for economy of time. The recitations should be about equally devoted to spoken, written, and concert responses. As a general thing (1), in classes in which the scholars have not been selected by any discriminating rule, the answer in concert should be first in order, in the case of each new lesson. Answering in concert has several distinct advantages. It gives courage to the timid and bashful, without removing the opportunity from the quick and forward of leading in the answers. It teaches those who are hesitating and imperfect in their forms of expression to frame good sentences and to express themselves promptly. It hinders discouragement, since the pupil does not hear his own mistakes nor hear them exposed publicly.

The better pupils get added stimulus to keep ahead in the replies. The imitative and co-operative habit is greatly strengthened. It serves as perhaps the best transition to the individual recitation, since it accustoms the children to the sound of their own voices and so gives confidence. In conducting such a concert recitation, however, the class should always be small enough to allow the teacher to detect and follow the answer of each individual child in turn, even though he attend to only one in each response of the class. What he thus learns of the single child will be most valuable to him in planning the further lessons and recitations of the pupils severally. (2) The spoken and written recitations should play about equal parts in the child's education, since the overuse of either is likely to result in one-sided training of memory and imagination. The strong distinction which is found among adults in respect to what is known as "ear-mindedness" vs. "eye-" and "hand-mindedness" is due largely to training largely by one form of expression in the early years of life. Or if it exists in a marked way in a child from his heredity merely, the effects of it may be overcome by well-rounded treatment. The written form of answer to a question trains both the hand and the eye, while the spoken form trains the vocal organs. The divorce now so common between the copy-book and the recitation is quite unnecessary and unpsychological. The child learns to write and draw under artificial conditions; and on the other hand, learns to express himself only in the slovenly and detached way that his spoken replies in a large class so often show. His written expressions, on the contrary, should be as normal and natural as his spoken responses, and it is only by making them so that the influence of the habits of exactitude, in the use of terms and sentences, required in intelligent writing, can be secured, as well, in his speech.

D. We now know enough of the conditions of fatigue, both physical and mental, to enable the teacher who is well-informed to dispose the time spent by the child in the school-room healthfully in this respect. The length of recitation periods should be varied in accordance with the kind of exer-

tion the scholar is called upon to make, with his age, with his individual type of mind, with his health. All these considerations should enter, also, into the determination of the recess periods; and moreover they should be considered in the arrangement of the studies in each day's program. A recitation in concert in geography or history is often fully as restful after one in mathematics or grammar as a recess would be.

E. There should be a physical examination of each child when he enters school, and periodical examinations afterward. This is especially important as regards sight and hearing. The distribution of the pupils in the schoolroom, on the recitation benches, etc., should then be made in the light of these reports of the medical or physical examiner. Moreover, all schoolhouses, schoolrooms, playgrounds, etc., should be examined with respect to their hygienic conditions; as to their general condition of ventilation, drainage, etc., as a matter of course, and, — not less important — as to the play of light, the acoustic properties, and possible exposures to extreme temperature changes.

F. The social environment of the individual scholar should be most carefully weighed; and in this the teacher's knowledge of the single pupil should be displayed. The best point of observation of the social life of the school is on the playground; and the teacher should cultivate, to the utmost, equality of standing between himself and his scholars in this important place. If he does this, he will not afterwards place an imitative pupil in the next seat to a profane or ill-mannered one; nor make the bully the hero of the game which calls out the emulation of the school.

G. The methods of rational punishment are too complex to be taken up in this brief statement. But this as well as many of the points made above, together with topics not touched upon in this paper, are treated in detail in a series of articles now appearing in the *Inland Educator* (G. M. Stalker, Editor, Terra Haute, Ind.)

Princeton University.

J. Mark Baldwin.

FROM DR. JOHN DEWEY, DEAN DEPARTMENT OF PHILOSOPHY, UNIVERSITY OF CHICAGO, CHICAGO.

In stating the following principles it is taken for granted that there are no results which are "foregone" in the sense of being beyond further investigation, criticism, or revision; but that what is wanted is a statement of results sufficiently assured to have a claim upon the parent and teacher for consideration as working hypotheses.

1. The radical error which the application of results of Child-Study would inhibit is, in my judgment, the habit of treating the child from the standpoint of teacher or parent; i.e., considering child as something to be educated, developed, instructed, or amused. Applications of this particular principle will be found in connection with the positive statement following.

2. The fundamental principle is that the child is always a being with activities of his own, which are present and urgent and do not require to be "induced," "drawn out," or "developed," etc.; that the work of the educator, whether parent or teacher, consists solely in ascertaining, and in connecting with, these activities, furnishing them appropriate opportunities and conditions.

More specifically:

(a) Sensory and motor activities are always connected.

(b) Ideational activity is perverted and cramped unless it has a motor object in view and finds a motor outlet.

(c) The sensori-motor and idea-motor co-ordinations tend to ripen in a certain order.

(d) The larger, coarser and freer co-ordinations always mature before the finer and more detailed ones.

(e) All normal activities have a strong emotional coloring,—moral (personified characters, dramatized deeds and situations) and esthetic.

(f) Curiosity, interest and attention are always natural and inevitable concomitants of the ripening of a given co-ordination.

(g) Finally and fundamentally, a child is a social being. Hence, educationally, the following methods:

(1) Reading, writing, drawing and music should be treated as ways in which a given idea, under the influence of its own emotional coloring, finds its own expression. The work of the teacher is to see that the mental image is formed in the child and opportunity afforded for the image to express itself freely along lines of least resistance, in motor discharge. Reading is psychologically dependent upon writing and drawing, needs observation for stimulus, and the stirring of the social instinct—the demand for communication—for object.

(2) Number arises in connection with the measuring of things for purposes of constructive activity; and hence arithmetic should be so taught, and not in connection either with figures or with the observation of objects.

(3) Nature-study, geography, and history are to be treated as extensions of the child's own activity; e.g., there is no sense (psychologically) in studying any geographical fact except as the child sees that fact entering into and modifying his own acts and relationships.

(4) Minute work is to be avoided, whether it is (i) mainly physical, as in some of the Kindergarten exercises, in many of the methods used in drawing and writing, or (ii) mainly intellectual, as starting with too much analysis, with parts rather than wholes, presenting objects and ideas apart from their purpose and function, what they will do.

(5) The intellectual and moral discipline, the total atmosphere, is to be permeated with the idea that *the school is to the child and teacher the social institution in which they, for the time, live*, and that it is not a mere means for some outside end.

Yours respectfully,

JOHN DEWEY.

FROM E. W. SCRIPTURE, YALE UNIVERSITY, NEW HAVEN, CONN.

Speaking from the point of view of accurate biological investigation of children, the most important result seems to me to lie in the possibility of careful development of each individual child on the basis of a trustworthy diagnosis of the child's mental condition at successive stages.

E. W. SCRIPTURE.

Yale University.

FROM DR. JOSEPH JASTROW, UNIVERSITY OF WISCONSIN, MADISON, WIS.

I find myself unable to give your questions the detailed consideration which they deserve. I am just returning to my labors after nearly a year's illness; and my first impulse was to beg off entirely. I am, however, too deeply interested in the success of the movement which you have inaugurated to withhold any encouragement that I am able to contribute.

I am firmly convinced that what to do and what to avoid in practical teaching are essentially dependent upon such knowledge as a study of children can alone supply. The path by which such practical applications can be secured is a long and tedious one. It presupposes a vast collection of facts; the establishment of generalizations; and the attainment of a working concensus in their interpretation. Indeed the application that is not so founded would run the danger of being the cult of a charlatan or ephemeral fad.

There are already a number of applications especially in the field of psychology of number, of reading, of imitation, of motion, of interest and in other topics, which a judicious teacher can profitably make; but on the whole, I think the time is not quite at hand for the most significant and important generalizations.

In addition to emphasizing the importance of the method by which legitimate applications are to be eventually reached, I also would like to call attention to the danger of isolating Child-Study as a cult by itself, to be pursued by rigid and schematic methods. Careful experimentation must be supplemented by judicious observation and both guided by the power of original, unconventional interpretation of child-life and child-ways.

I regret my inability to take up the topic in greater detail at the present time, and wish to express once more my cordial interest in the work of your society. Believe me,

Very truly yours,

JOSEPH JASTROW.

University of Wisconsin.

FROM DR. HENRY H. DONALDSON, PROFESSOR OF NEUROLOGY, UNIVERSITY OF CHICAGO.

From the neurological standpoint we have the fact that development takes this order: The nervous system so grows that a mass of muscles must readily respond to the sense organs with which it is directly anatomically associated. That the first movements which occur are those of the entire mass of muscles, say movements of the whole limb; these movements gradually become subdivided, the progress being from the coarser to the finer muscles, so that mature control over the most delicate adjustments comes last. Hence, for example, the full arm movements should precede the finger movements. Further, there is a sequence which is normal; in this sequence the muscles are contracted from the trunk to the periphery. The cells controlling these movements mature in a corresponding order. Their education should follow the same order.

The training of a nerve cell, or the exercise of it, to use the physiological term, is accompanied by changes in nutrition and danger in the training of immature cells, in that their nutritive processes which shall contribute to further growth, are made to contribute to precocious organization, which, in the absence of growth, must necessarily be incomplete.

A principle of great importance is the recognition first of the fact that the capacities to a given nervous system are never to be known save by direct experiment; that the absence of capacity at one stage of development does not presuppose its absence at a subsequent stage; that the educational processes of formal training of cells which have partially matured without such stimulus; that training is insignificant without the previous changes which the training may be efficient in bringing about; that the best form of secondary growth is often a limited one, and hence that neglected opportunities for such training cannot be repaired at some later date.

Yours very truly,

HENRY H. DONALDSON.

FROM DR. WM. L. BRYAN, UNIVERSITY OF INDIANA, BLOOMINGTON, INDIANA.

Since many are writing in answer to your question, I shall be very brief.

Educational philosophy furnishes many principles which seem to me true; as, for example, that instruction should be adapted to the age, attainments, and dispositions of the children. Such principles, if true, are valuable, however, only as *major premises*. No conclusion can be drawn and no practical application can be made except as we are able to say this and this and this child has this and this attainment and this and this disposition. On what grounds anyone supposes that the teacher can apply the principles without such specific child-study, I do not know.

I wish to add two remarks: 1. The biological, medical and psychological sciences, which contribute to our knowledge of child-life, like all other empirical sciences, are in process of rapid growth, and therefore contain many things scrappy, apparently useless and contradictory. Such a book as "Donaldson's Growth of the Brain" may, however, show the outsider how, through the seeming hurly-burly, there arises a substantial science of the life of man.

2. I believe that *scientific* child-study will get inside the school only through men who have assimilated some phase of scientific child-study, and are at the same time practical school men.

Very truly yours,

WM. L. BRYAN.

FROM DR. ELMER E. BROWN, UNIVERSITY OF CALIFORNIA, BERKELEY, CALIFORNIA.

Some Principles of Psychology that have a Bearing on the Practice of Teaching.

(1) Current studies in psychology seem at first sight to emphasize chiefly the point of view that children present the greatest conceivable differences as regards their psychological characteristics. However much later inquiries may tend to modify this point of view, there can be little doubt that one chief outcome of our study of the psychology of childhood will be a fuller recognition of individual differences.

(2) On the other hand, however much current investigations may emphasize differences, the whole tendency of psychological thought—in fact, its necessary tendency—is to seek for universal principles. Rational psychology asserts unmistakably the existence of such principles, and even physiological psychology and our studies in psycho-genesis point to their existence. Unless such general principles do exist, no science of psychology is possible. As a matter of fact, many important indications have been found of general principles which have not yet been thoroughly wrought out. Thus far child-study may be said to anticipate and suggest a larger body of such principles than it is able as yet positively to assert.

(3) Child-study may fairly be said to be engaged at present in separating those phenomena of child-study in which a general tendency is clearly marked from those phenomena which are individual and capricious. It seems fair to say that in several directions it is likely that a reasonably definite norm of healthy activity can be determined, the variations from this norm being so few in comparison with the agreements therewith that they may be fairly designated as exceptional.

(4) In the case of very young children, our recent child-studies have demonstrated a great changeableness. We have found the clearly marked psychological tendencies of one

month disappearing almost wholly from sight a little later, and then very likely reappearing in more than their original strength. This observation, although apparently so general in its character as to be of little use, is, in fact, highly significant in its bearings upon the practice of the schools.

(5) Closely connected with this is the fact that fatigue has a marked influence upon the processes of instruction. As the working of the same set of muscles for too long a time brings down their power of work to a point below the maximum, and very soon to a point below the average of efficiency, so the working of a single brain tract for a long period continuously in connection with one unchanging form of mental activity soon brings the pupil to the point where the maximum of effort produces the minimum of educational effect. The study of the facts of fatigue in their more general bearing; and also the study of individual children with reference to the possible duration of effective effort, the means of extending the time of such effort without producing weariness, and the kind of recreation which most readily secures recovery of freshness after continued effort in one direction—these are inquiries which it is incumbent upon every teacher to pursue most earnestly. The results of such studies will undoubtedly lead to a much better economy of the time and effort devoted to instruction.

Both of these last mentioned considerations (4) and (5) have a bearing upon the important principle of alternation, of rhythm in our mental life.* Not only does fatigue in one direction call for rest on that side, accompanied by increased activity in some other direction, but there seems to be a natural rebound from one kind of activity to some other correlated form of activity. It cannot, however, be said that these characteristic rhythms have as yet been investigated to such an extent as to offer safe principles for the guidance of teachers. All that can be done here is simply to indicate the probability that results of value will yet be achieved in this direction.

(6) Probably no one principle of psychology is more definitely established as a rule for guidance in teaching than the

*Compare Spencer: "The Principles of Psychology." (D. Appleton & Company, 1890. P. 122.)

principle that the knowledge of individual facts acquired through the activity of the senses is essential to the effective prosecution of instruction. Alongside of this may be placed the principle that instruction cannot succeed except by arousing the self-active participation of the pupil. These two principles belong to the platitudes of education, which is another way of saying that they are well established and generally recognized. Unfortunately, they have not yet become the platitudes of educational practice in a corresponding sense. They constitute the most generally accepted practical outcome of the teaching of Pestalozzi and Froebel.

(7) The principle that new knowledge, to become significant, must be assimilated by knowledge already acquired is one of the farthest-reaching principles of psychology from the point of view of education. No one result of the labors of Herbart and his school is likely to be more permanent or more practically fruitful than the clear enunciation of this principle.

(8) Current psychology is largely occupied with following out the results of the so-called principle of dynamo-genesis.* Every impression coming from the outer world carries with it an inevitable tendency to issue in a movement affecting the outer world. As Professor Laurie states the matter: "There seems to be a general law in the universe that impression completes itself in expression, and that the former is incomplete without the actuality of the latter." I suspect that this principle, as it is fundamental to modern psychology, will be found to have far-reaching consequences in modern pedagogy. It may not be too much to say that one of the next and most important problems before us is that of discovering what these consequences are. Thought involves, as it were, a damming up of this natural current of impression, finding outlet in expression. How far may the current be dammed up in the mind of the little child without permanently impeding its flow? How are our schools to make thinkers without making Hamlets? On the other hand, this damming up of the natural current is to a certain extent itself natural, and

*Compare Baldwin: "Mental Development in the Child and the Race." (Macmillan & Co., 1895. P. 165 and following.)

results in better direction of the current when it is allowed full course. What proportion of the school time may be safely devoted to activities of the motor type (oral reading, writing, drawing, singing, calisthenics, manual training in all its forms), and what proportion to activities of the damming-up type (thought in its various forms in all school studies)? Is there some fundamental rhythm here that can be discovered and utilized? So far our psychology has given us at this point hardly more than a statement of pedagogical questions; but, if I mistake not, the very presentation of these inquiries is a definite and valuable service.

(9) With reference to the training of the motor functions, one or two facts have come out with a reasonable degree of clearness. As sensation is generally recognized as constituting the starting point for development on the receptive side, so the native impulses* are recognized as the starting point for development on the motor side. It is incumbent upon teachers to study the natural activities of the children and adapt their training to these, instead of forcing upon them *ab extra* a form of training which makes no account of their spontaneous tendencies. Furthermore, in the elaboration of these tendencies—the raw material out of which the higher activities are to be made—modern psychology recognizes the principle of imitation† as determining in large measure the course of such development. We are coming to realize that on this side of education the highest success cannot be attained without first securing a point of departure in the spontaneous activities of the pupil, and then proceeding therefrom under the ennobling influence of the best examples.

ELMER E. BROWN.

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*Compare Dewey; "Psychology." (Harper & Bros., 1893. P. 347 *et seq.*)

†Compare Royce: "The Imitative Function" ("Century Magazine," May, 1894). Baldwin: "Mental Development." (The whole book may be said to be a treatise on imitation.)

FROM DR. EARL BARNES, PROFESSOR OF PEDAGOGICS, STANFORD UNIVERSITY, SANTA CLARA CO., CALIFORNIA.

In reply to your circular letter concerning results so far reached in child-study, I should say that in my judgment the following conclusions are pretty well established by the studies carried on during the past four years in California:

"1. Children of the primary grades and of the lower grammar grades are interested in the natural world around them because of the uses that objects may have, and not primarily along the lines of substance, structure, form and color.

2. In the acquirement of religious and theological concepts, children have to reach them through their concrete experiences with men and things. Their early religious ideas must be anthropomorphic.

3. Children tend to use drawing primarily as a language. It is a means of telling something, not a means of making something pretty.

4 In the use of color children like bright red, blue and yellow. A considerable training is needed to make them care for neutral tints.

5. Punishment is accepted by children largely on a basis of feeling without clear-cut or very definite ideas as to the reasons why it is just or unjust.

6. Ideas and feelings of sex appear very early in a child's mind. The obscene vocabulary with accompanying bad imagery is common to most children, seven years old, in our public schools, and along with it they have learned to be extremely secretive."

EARL BARNES.

FROM DR. A. D. CROMWELL, TOBIN COLLEGE, FT. DODGE, IOWA.

Replying to your questions of September 25th, will say:

1. (a) Less attention would be paid to attendance, pages passed over and tardy marks, but records would be kept of tendencies, characteristics, development of thought power, etc. (b) Children would not be graded according to "book learning;" but would be graded according to health and thought power. (c) Less attention would be given to intellectual growth, and more attention would be given to culture of the emotions. (d) Little children would be required to do less fine finger work. (e) Length of "sitting time" of the small children would be shortened.

2. (a) Sight and hearing of every pupil should be tested often. (b) Teachers should have to pass examinations on elementary psychology and child-study. (c) Much more attention should be given to the cultivation of systematic observation. (d) Last, but not least, more should be done to give moral culture.

With teachers no better educated than our teachers are, I do not think practical results can be obtained from scientific "child-tests;" *i. e.*, tests in reaction time, thought time, motor ability, etc.

Yours very truly,

A. D. CROMWELL.

Tobin College.

FROM DR. PAUL HANUS, HARVARD UNIVERSITY, CAMBRIDGE, MASS.

I have followed with a good deal of interest the movement in this country for the study of children, inaugurated some years ago, although I have never been among those who believe that this study has thus far contributed any important principles of education not heretofore discovered and constantly applied more or less generally by wise parents and enlightened teachers. In saying this, I do not mean to assert, either directly or by implication, that I do not believe that "child-study" may not in time yield new and important principles of "teaching and training" that have not hitherto been recognized; or that it may not yield at least important confirmation of such principles. I only mean that, in my opinion, such results have not yet been realized.

The great value of the study of children or "child-study" seems to me to lie in its effect on those who engage in this study rather than in the contributions which this study has thus far made to psychology or to the theory of education. I mean that I believe that the study of children is capable of inducing the habit of thoughtful and sympathetic obervation of children; that the cultivation of this habit may develop in parents and teachers a permanent interest in the interests, capacities and needs of each individual child that has to be cared for, and hence may promote a more intelligent, helpful, inspiring and just treatment of each child than would otherwise be the case. Such study of children with these results is, however, no new thing. But it is true that such study has never been as general as it should be; and organized movements for the study of children, such as your association represents, therefore, deserve due credit for emphasizing this important phase of training for both parents and teachers, and for making such study much more general than it ever was before.

With this preliminary explanation, I would answer your questions as follows:

1. In my opinion, the organized study of children to which you refer has not thus far yielded any results, not previously known, that would cause the abandonment of some prevailing methods in "the teaching and treatment of children;" nor, with the possible exception of certain anthropological results, has this study yielded authoritative confirmation of the badness of any methods of teaching and treatment of children not already discredited by principles long and well established both by educational thinkers and thoughtful teachers. In the wide and important field of children's interests and motives, I know of no new contributions of value whatever traceable to "child-study," nor of any results that either confirm or discredit our existing knowledge in this field. I say this with some knowledge of what has been attempted.

2. This question is so comprehensive that it is impossible to answer it adequately in a paragraph or a few pages. I offer the following: Methods and devices are very numerous. They must differ for every subject of instruction and for every teacher, and must be modified for every pupil. There are, therefore, no methods nor devices that are "fundamental," if I understand your use of the term. But some fundamental principles that underlie all methods or devices for "the (good) teaching and treatment of pupils" can be stated. I, therefore, confine myself to principles. What follows is an attempt to make a clear statement of an important, more or less generally accepted, though often vaguely conceived, proposition. I understand from your question that such a statement is desired.

The most characteristic defect of our schools and teaching from the primary school to the end of the high school course seems to me the absence of definite aims. A clear statement of the aims of elementary and secondary education, therefore, seems to me to embody some of the most important of those fundamental principles which your second question asks for. In this belief, I offer the following:

The special aims of elementary or primary education are:

1. To nourish the mind of the child through a course of study which should comprise an orderly presentation of the whole field of knowledge in its elements, and thus provide the

opportunity for the exercise of all his powers, mental, moral, esthetic, manual or constructive, through good instruction and wise discipline.

2. To guard and promote his normal physical development. Continuous delopment from the stage of early childhood, covered by the period of elementary education into the stage of later childhood and youth covered by the period of secondary education, does not involve the abandonment of these aims. On the contrary, these aims must continue to influence the pupil's education throughout the entire formative period. During that period the pupil should be led to find for himself what his tastes and capacities really are. This is the period of dawning and developing mental and moral self-consciousness, the period when the pupil should be gradually led to emancipate himself from intellectual and moral guidance and authority, and assume wisely the independent control of his own development, to determine intelligently his own future. This emancipation and self-revelation is the main function of secondary education, and on its fulfilment depends very largely the pupil's subsequent progress, happiness and usefulness.

The special aims of secondary education are, therefore:

1. To discover and systematically to develop a human being's interests and capacities—intellectual, moral, esthetic, manual or constructive.

2. With constant regard to the progress of this discovery, to so direct this development as gradually to emancipate him from external restraint and guidance in order to render him, so far as possible, self-directing; *i. e.*. physically, mentally and morally stable, alert, vigorous and active,

3. To enable the youth to realize that the prizes of life; namely, wealth, honor, leisure, in order to possess lasting worth in his own estimation and in the estimation of his fellowmen, must be *earned;* or, when inherited, as they sometimes are, that they must be *deserved;* that, in short, man's highest and most permanent ideal is *service.*

With such aims in mind teaching ceases to be a mechanical routine, and becomes a rationalized and inspiring endeavor.

PAUL H. HANUS.

Harvard University, October, 1895.

FROM DR. C. C. VAN LIEW, ILLINOIS STATE NORMAL UNIVERSITY, NORMAL, ILL.

As I understand the two questions that have been put, they aim to get at some conception of what child-study has thus far done that will affect the present condition of educational work. Before replying to them separately, therefore, I wish to say that I do not believe the work of child-study alone has thus far pointed to any radical changes in our educational system unless it be in those matters which affect the child's physical development. In many points child-study results seem to me to substantiate, to give new emphasis to, many thoughts which our educational seers and reformers had already more or less clearly defined; but in addition to that, of course, the results of child-study add that definiteness and significant detail to these great educational principles which only close, patient and careful research could bring about. In general, then, the work of child-study tends to *rationalize*, to make *reflective*, all of our aims and acts in the education of the child. Beyond these results I believe we should not seek for too hasty and too early conclusions.

1. In reply to the first question, it seems to me that our present knowledge of the physical growth and development of the child will soon be able to affect the physical treatment and the school environment of the child very materially. There has been, in the schools of the past, a baneful tendency toward repression of the physical child. Not only the teacher's measures, taken for purposes of government and order, but even the work assigned for the child to perform, especially in the early grades, and the physical conditions that surrounded him, tended to suppress all the natural physical activity that the child evinced. To-day we are beginning to look upon this spontaneous physical activity of the child with considerable respect. We see that there is no chasm in the child's psychical being between sensation and action or expression—they are complementary. We realize that action and ex-

pression are just as natural and necessary phases of any psychical state of the child as is sensation. Hence I believe that child-study has emphasized for us as never before the need of instructing, in the early grades especially, so as to secure and insure the possibility of the natural physical activity of the child.

Our study of the physical weaknesses and defects of children, as they appear in the common graded schools of our large cities especially, has forced upon us the realization that there is much in the school environment of the child, even under the most favorable circumstances, that may be directly injurious to physical growth unless the teacher's attention is called to the need of special precautions. I refer not only to the general measures of school hygiene that every intelligent teacher should know how to apply for the comfort and welfare of her entire school, but also to that regard for the peculiar physical development of individual pupils which is so necessary on the part of the teacher if the limitations of many children are not to be wholly overlooked, and hence made constant sources of annoyance, chagrin, ineffective work and habit deterioration. It is not impossible now for the teacher to be cognizant of the individual peculiarities of the eyesight, hearing, nervous system, etc., of many of her pupils who need special attention in these respects, and it is against the disregard of these things which the study of the physical child will in the future most fervently protest.

Our study of the child mentally has shown us a great deal concerning his mental equipment on entering school. In certain respects his growth has been truly wonderful, in that upon entering school he possesses keen and active senses and the power to interpret and recognize many objects and to communicate with the external world. On the other hand, when we inquire into the extent of his exact and definite perceptions of things—such sense materials, for instance, as could be made the basis of exact instruction—we are struck by the fact that he is deficient in ideas. We find him remaining still on the surface of things. For purposes of instruction his concepts are dim, vague, his use of general terms, loose. I know of no fact which child psychology has thus far estab-

lished of greater importance to the teacher than this. How should it affect the teacher's work? Shall we begin with drill in mere forms or shall we take up the work of idea-development where we find it when the child enters school and carry it on further? I believe that this fact emphasizes the need of occupying the child first and foremost with those things that will give him a fund of clear, definite, valuable and inspiring ideas, such as may be made in the future the basis of higher instruction. There has already been some change in this regard in the curriculum for the early grades, but it is still a question as to whether this change has been carried far enough.

It seems to me that long contact with the present literature of child-study on the part of the teacher will show her that in many ways child-study data have constant bearing upon the daily work of instruction. Often teachers are not conscious of the fact that child-study is a daily problem for every practical teacher and that every teacher who stands before her class, suiting the act to the need, adapting material and method to the needs of the individual child, is a constant, practical student of children. But such a teacher may secure many valuable hints from the method of child-study. For instance, we are often at a loss to know why we meet a certain difficulty over and over again in attempting to teach reading, drawing, arithmetic, etc. Here is an opportunity to apply the method of child-study. At this point child-study steps in and suggests that the teacher should not merely pass by these difficulties discouraged, but that she make a note of each given case, of the conditions under which they appeared and endeavor to seek in the whole number of cases some common element that will point to the source of the difficulty. The same is true of the teacher's work of guidance where she comes constantly in contact with the habits and dispositions of the children.

While I do not think that child-study will ever do away with the need of class instruction, since the individual is not developed until he realizes himself as a part of and reinforced by the social community, it is still evident that child-study will bring about a more perfect recognition of the individual

since it sets the teacher to investigating as never before individual personalities.

2. As to the principal methods and devices now in common use which may be taken as fundamental and authoritative in school work, I would point first to the principle of concentration, which is the doctrine of perfected conditions of attention. There is in the life of the child no such isolation of activities as is at once thrust upon him upon entering the first grades of school. While I do not wish to dispute the need of a thorough isolation of each distinct branch in order that it may be grasped as an organized system; *i.e.*, known, *sensu stricto*, I do believe that it is contrary to the nature of the child to have this isolation of school activities thrust upon him from the beginning, and to permit him to pass through his entire school course without receiving ample power to relate or associate different isolated activities and bodies of knowledge in order to secure their practical use. Again, the doctrine of the Culture Epochs, which requires that the material and work of instruction be adapted to the successive interests and instincts of the child; that is, to his successive forms of attention, is fundamental. It is, moreover, one of the educational theories that has been greatly strengthened by child-study research. The doctrine of sense perception and all that it involves, including type studies, is another doctrine which seems to me fairly well grounded in the nature of the child. The so-called word-method in teaching reading, in so far as it seeks to place thought foremost as the motive for expression, I regard as fundamental. The doctrines above stated, of course, imply a great variety of dependent methods and a great variety of possible applications.

C. C. VAN LIEW.

FROM PROF. M. V. O'SHEA, DEPARTMENT OF EDUCATIONAL PSYCHOLOGY AND CHILD-STUDY, SCHOOL OF PEDAGOGY, BUFFALO, N. Y.

I regret that I have not been able to respond earlier to your letter of 25th September asking my opinion as to whether child-study has yet accomplished anything that may be regarded as foregone conclusions; and if so, how these would affect the present work in the schoolroom. I think it is very doubtful whether child-study has yet accomplished much, if anything, that may be regarded as conclusive when measured by the requirements of the method of pure inductive science; but it seems to me, on the other hand, that for all practical purposes we are entitled to make certain inferences from the results of investigations in child-study that may guide us in the conduct of our educational work. Perhaps child-study can never meet the demands of pure experimental science, as can physics, botany or chemistry, for the data to be worked upon are infinitely more complicated and obscure, and therefore difficult to study; but it is not reasonable to say that because the study of children has not yet become an exact science that we therefore have no right to form any conclusions respecting childhood. When we remember that the teacher is constantly dealing with the children anyway, and she must have some system of principles to work upon, we see the absolute necessity for making immediate use of any new fact about child-nature that may have considerable evidence to substantiate it, even though the scientist pure and simple may not regard it as yet established. I should therefore say that we have some results of child-study that may be regarded as foregone conclusions, in the sense that they ought to modify the work that is now being done in the schools.

I will group these conclusions under three or four heads:

I. Physical growth and development of children. It seems to me to be quite conclusively shown that children do not grow and develop uniformly from birth to maturity, but that

there are periods of very rapid and others of retarded growth The period in a girl's life between eleven and fifteen, and in a boy's life from twelve to sixteen, is a time of great physical disturbance; and I think that it is shown that these abnormal physical conditions have a marked influence upon the mental and emotional development of children. It is an established fact, I believe, that when the energy of the body is required for rapid growth or development of any part of the body, that there is less energy for mental effort; and it would follow that during the period of puberty a pupil is not able to do so much work or do it so well as he can either before or after. Our school curricula should take account of this. Boys and girls should not be held for the same work after the age of ten years. Puberty begins in a girl's life earlier, and has a different effect in developing characteristics of mind and emotions from what is true in the case of the boy. Greater provision should be made for free outdoor life for both boys and girls during the period of puberty; and the error should not continue to be committed in thinking that because a pupil is older at thirteen than at ten more work and greater self-control should always be expected from him.

In the second place, studies upon fatigue in the schoolroom have shown conclusively, I think, that at least some of the work in the schoolrooms where there are many children creates nervous diseases by ignoring the laws of growth and development of childhood. The old idea of discipline by which it was thought that the business of the school was to make a child sit still and exert great self-control during the school hours of the day, still does a vast amount of injury to the young pupils. There should be greater opportunity for freedom and play in all the grades, but especially in the first three or four. All work requiring much motor control for longer than ten or twelve minutes at a time should be prohibited, at least in the first two grades, and longer periods of control should be required only very gradually.

In the third place, our schools should have a medical inspector, whose duty it would be to carefully examine children once or twice a year, and especially at the beginning of the year, to see if they are physically capable of doing the work

of the schoolroom. The most careful examination of sense defects should he made, and also of central nervous defects; and if a pupil be found deficient in any way he should be properly cared for.

Again, it is shown, I think, that the muscular development of the child is from large movements involving whole muscles, to complicated and delicate movements requiring greater co-ordination of secondary muscles. The writing and drawing and all manual work in the school should recognize this principle, and should not require of the young child great co-ordination of muscles, but he should be brought slowly and gradually to this power. The writing in copy books for ten or fifteen minutes each day should be prohibited, unless great freedom of movement is allowed and children permitted to stop if they are fatigued, It would be better to leave such work until later, for there is an abundance that is of greater interest to the child, and in the doing of which there is no danger of injuring the health.

Lastly, for the proper physical development of children a gymnasium should be placed in every school where there would be an opportunity for the greatest freedom and play with appropriate gymnastic exercises for at least forty-five minutes each day. There should be less anxiety to force the child intellectually, and more care taken in laying a sound physical basis. It should be recognized that the development of the body and the perfect control of all its members is in reality the very best and most serviceable way to develop the mind.

II. In regard to intellectual things. I think it is thoroughly established that the child mind can understand and is interested in that kind of instruction only which is closely allied with his experiences within and without the schoolroom. When the child first enters school, therefore, all instruction must be based upon what he has brought to the school from his home life. The attempt to make a logical beginning in subjects of instruction is entirely wrong, for the individual child must determine where the beginning is to be made. Text-books that take up different subjects logically should be cast out of the school, as should all text-books in the first

grades; for unless this is done it will be impossible to minister to the individual child's needs. I would not convey the impression that the child must be educated as an individual, for it is apparent that since he must live in society his idiosyncrasies must not be developed by education, but rather controlled by contact with his fellows. But in leading the child to adapt himself to his social environment we must constantly keep in mind the apperceptive basis, else instruction will miss its mark. To this extent, then, instruction in the school must take account of the individual child, not to make him an individual distinct from others, but to make instruction effective.

In the second place, I think it is shown that the child's interest is in content, and that he gets form incidentally. The less emphasis that is put upon form the better. If content within the experience of the child be constantly held before him the necessary forms of acquisition and expression will be gained in acquiring and expressing what is gained from the study of content,—subject matter. We need in our schools very much more emphasis upon content studies and prohibition of so much drill work upon mere form. We need to give the child things to think about that he is interested in, then let him grow in the power of acquisition and expression; I say *grow*, because it seems to me to be reasonably well shown that too much conscious direction on the part of the teacher while the child is learning forms can result only in retarding the child's development. The learning of symbols in reading and arithmetic should not be begun at once when the child enters school, but he should be given a large amount of content subject-matter and should be allowed to express through the forms that he is master of, oral language, drawing, painting, modeling, pantomime, games, and plays.

In the third place, expression through drawing and painting should be given a much more important place in our schools than it now has. Drawing should be regarded as a means of expressing certain facts which cannot be made known so well in any other way, and it should not be thought that the muscular element involved in drawing is a hindrance to the child in expressing the concepts he has of objects and

their relations to each other. While the drawings may not at first be perfect, neither is oral language nor any other mode of expression. And drawing is probably no more difficult for the child at first than language. Expression through drawing should also be regarded as a means of determining what the child receives from instruction, as well as should oral language.

Lastly, it may not yet be shown by child-study that the idea of formal discipline is an erroneous one, but it seems to me to be established from some source that the mind of the child is shaped by the things it comes in contact with in a special and not in a general way. The study of arithmetic, for example, does not cultivate general power, but only special power in arithmetic; and so with all the other special subjects. There is no such thing as cultivation of general intellectual power by the study of general subject-matter, so that all subjects in the school curriculum whose purpose is the cultivation of mental power simply should be cast out. The principle of apperception in the child-mind shows conclusively that what he studies or does in the school determines and limits his ability to study and do after he leaves the school.

I find that I have already taken much more space than I think I should have done, and so I will add nothing further here. While perhaps I cannot feel that all of the points mentioned above are proven to the satisfaction of scientists, still I feel that the results of direct and indirect child-study warrant us in making them guiding principles in our instruction.

M. V. O'SHEA.

DR. W. O. KROHN, UNIVERSITY OF ILLINOIS, CHAMPAIGN, ILL.

The results of investigations along the lines of child-study in Illinois the past two years have demonstrated that certain pronounced modifications of the schoolroom methods are demanded, among which are the following:

1. *Seating.*—A sensible principle to guide in the assignment of seats to the various pupils in a given school is much needed, but until recently none such has been applied. The best basis of judgment lies in the child's power of vision and hearing. Some children who are near-sighted are, by mere chance, given seats in the more remote and poorly lighted corners. Others who are far-sighted have front seats. Eye strain always gives rise to chronic school headaches. Defective vision, unless relieved, always causes nervous derangement in some form. Now, in the well-ordered modern school, every child has his vision tested periodically, also his hearing. He is then seated according to the capabilities of these two senses. It may be said that this of itself has no direct bearing on educational methods, while, in fact, such watchcare and oversight is a necessary pre-condition—a *sine qua non* of all successful true education in the schoolroom.

2. *Methods of Teaching Reading Should be Modified.*—We now know that it takes the child longer to see and recognize a single letter than it does to see and recognize an entire word. Words are concrete—letters are abstract. We should, in the beginning, teach the child reading by the word method.

Writing.—Inasmuch as the muscles of the upper arm are developed at least a year and a half before the muscles of the fingers, we should permit the child to begin to write with the whole arm movement; *e. g.*, at the blackboard.

4. Inasmuch as the child grows by epochs and stages rather than by steady unfoldment, and inasmuch as the best time to educate a germ faculty or power is at the time of the most rapid growth of this particular faculty or power, then we should readjust the school curriculum so as to meet the

natural needs of his unfolding organism. The order of studies should be determined by the order in which the faculties come into growth and development, and not determined by some arbitrary fiat of school officers.

5. We should apply certain principles of mental waste and mental economy; *e. g.*, not spending six or seven years on arithmetic when three years at most would give equal results, if the study were taken at the right time.

6. Child-study has made it plain that the teacher must take account of the daily fatigue periods, and assign the more difficult task at the time of greatest mental vigor, and the more formal occupations at the time of least vigor.

7. Child-study has made it particularly plain that children are to be treated as *individuals* in so far as this is possible in the schoolroom. Class methods in large measure must be given up in a degree for methods of individual teaching.

DR. W. O. KROHN.

FROM PROF. M. V. O'SHEA.

To the Members of the Mothers' Club, Buffalo:

At the first meeting of the Mothers' Club, held November 23, it was decided to undertake the systematic study of child-nature; and the first general subject for investigation will be the physical aspects of child-growth and development. Under this head the following topics will be considered:

I. THE FORMATION OF HABITS IN CHILDHOOD.

1. Impulse, reflex and instinctive movements of children out of which all habit grows.

2. The nature of the nervous system, its parts and functions, showing the physical basis in the formation of habit.

3. The sources of habit (limitation, unconscious contact, instruction, necessity, etc.).

4. The breaking of habit—the physiological and psychical laws involved.

5. The significance of habit in all training in the home and in the school.

6. The relation of physical to mental habit, and the application of the general laws involved to the training of children.

II. THE PERIODS OF EXCEPTIONALLY RAPID AND RETARDED GROWTH.

1. The causes which produce very rapid or retarded growth at different times in a child's life.

2. The results being reached by such investigators as Bowditch, Gilbert, Peckham, Boaz, Porter, Key, Warner, Mosso, Bürgerstein and others. Results also of some comparative studies made upon Buffalo children.

3. The relative growth and development of boys and girls at different periods, and the bearings of this upon the question of co-education.

4. The period of adolescence in boys and girls and the physical and mental characteristics predominant during this period.

5. The growth and maturity of different organs and parts of the body at different times in a child's life, and the importance of this in determining the training and education of children.

6. The play instinct in its physical aspects—its office in the development of children.

7. Appropriate physical training for children.

8. Application of the facts of physical growth and development to the work of the home and school.

III. FATIGUE.

1. Meaning of the term, and the recent interest manifested in this subject.

2. The results of investigations carried on in the psychological laboratories of Clark University, Yale University, Indiana University and elsewhere; some of the results being gained also from the study of Buffalo children in school.

3. The physical and mental effects of fatigue, and the danger of continuing it long in any direction.

4. The causes in the home and school which produce fatigue, and appropriate remedies.

5. Means of detecting the existence or approach of fatigue in children.

IV. THE INFLUENCE UPON CHILDREN OF HEREDITY AND ENVIRONMENT.

1. Theories of Spencer, Ribot, Darwin, Weissman and others.

2. Arguments in favor of the inheritance of characteristics of physical structure.

3. Arguments against the theory of the inheritance of characteristics of physical expression, or of mental characteristics.

4. The influence of environment in determining the intellectual and emotional personality of a child.

V. THE IMPORTANCE OF HARMONIOUS, EFFICIENT PHYSICAL DEVELOPMENT IN ALL MENTAL AND MORAL GROWTH IN TRAINING.

1. The dictum of modern physiological psychology upon the possibility of influencing the mind through the training of the body.

2. The specific value of different forms of physical activity in developing the mind.

3. Appropriate physical training for the home and the school.

4. The effect of habitual attitudes and postures upon a child's intellect and character.

VI. TEMPERAMENTS IN CHILDREN.

1. The four classic types, and the mental and physical qualities characteristic of each.

2. Physical signs of each of the different kinds of temperaments.

3. The different kinds of treatment demanded in the home and in the school by different temperaments.

VII. COMMON DEFECTS IN THE SENSE ORGANS OF CHILDREN.

1. The common defects in vision, and the physical and mental defects.

2. Common defects in hearing, touch and the other senses, and the effect upon the mind of the child.

3. Cause of sense defects, and their prevention and cure.

NOTES.

1. The blanks sent you herewith suggest studies that may be made upon individual children upon the several topics mentioned above. It will be helpful to have these filled out accurately, and perhaps discussed by the Club. Especial care must be taken in the study of children that the points recorded have been very carefully observed, and if any inference is made, that it is a correct one. The great difficulty in child-study is to know how to read and interpret signs; and all the work of the Club will aim ultimately to secure some

skill in this direction. The Director will be glad to aid any one so far as he may be able along this or other lines.

2. Practical questions relating to the topics under discussion should be brought by members of the Club to each meeting and discussed by all. The greatest benefit may be derived from consideration of these practical problems.

3. In the systematic study of childhood it will be necessary to discuss the average normal child of different ages; and if the special problems of any member are not considered at the outset, there should be patience, and these will probably be dealt with before the work is completed. The only satisfactory study of children is this systematic kind that attempts to view the child as a whole, rather than centering attention upon some one special characteristic that may be of great interest at the time to some individual member.

4. Questions concerning any phase of work in the Franklin School will be considered at the appropriate time at each meeting of the Club, if any member so wishes. Programs of the entire work of the school will be sent out each month, and time will be set apart at each meeting for their consideration.

5. The following references are suggested for reading and study so far as the members have opportunitv:

a. "Habit and its Importance in Education," Radstock: D. C. Heath & Co., Boston.

b. "Hand-book of the Illinois State Society for Child-Study," Dr. C. C. Van Liew, Sec'y., Normal, Illinois.

c. "Growth of Children," Peckham, Vol. I, "Annual Report of the State Board of Health," Wisconsin, 1881.

d. "American Childhood from a Medical Standpoint," Taylor: "Popular Science Monthly," Vol. XLI., p. 721.

e. "School Life in Relation to Growth and Health," Alexander Key.

f. "Postures of Children," Mara L. Pratt, "Education," Vol. XIV., p. 408.

g. "Fatigue," "Pedagogical Seminary," Vol. III., p. 213.

h. "Fatigue," "Pedagogical Seminary," Vol. II., p. 102.

i. "The Nervous System and its Relation to Education," "Popular Science Monthly," Vol. XLVII.

j. "Outlines of School Hygiene," "Pedagogical Seminary," Vol. II., No. 2.

k. "Study of Adolescence," "Pedagogical Seminary," Vol. I, No. 2.

l. "Growth and Means of Training the Mental Faculty," Warner: Macmillan & Co.

If any member would care to read a very excellent but somewhat technical work upon the New Psychology, which is very closely related to child-study, the following two books are recommended:

1. "Outlines of Psychology," Höffding: Macmillan & Co., New York.

2. "Pyschology," James: 2 vols.; Henry Holt & Co., New York.

M. V. O'SHEA, Director.

December 2, 1895.

SUGGESTIONS FOR THE STUDY OF INDIVIDUAL CHILDREN.

MOTHERS' CLUB, BUFFALO, NEW YORK.

Physical Growth and Development.

I. FORMATION OF HABITS.

Name of child; age; place of birth; weight; height

1. Is the child impulsive? Constantly trying to perform some new feat? Active and restless? Always so? Or is it retiring and slow to make experiments in doing new things?

2. When did you first notice that it began to form settled habits? What seemed to lead it to form these habits? Did it imitate some one? Discover some new movement and being delighted with it try it over and over again?

3. Does it form habits readily now? Does it easily give up old habits for new ones? Give some examples.

4. What seem to be the sources that lead to the formation of new habits? Imitation? Instruction? Command of parent or teacher?

5. Whom does the child imitate? Parents? Brothers or sisters? Teacher? Companions? Heroes in stories? Does it copy the *actions* of people? Or their dress? Manner and tone of speech? Facial expression? The words they use?

6. Is it slow in forming unselfish habits? How often does it have to repeat an act in order to make it habitual? What kind of actions seem to be hardest to become habitual? Courtesy toward superiors? Promptness in performing duties? Cleanliness and carefulness about dress, etc? Has it been required to obey superiors promptly? In forming a new habit has it been allowed to break over once in a while?

II. FATIGUE.

1. What diseases has the child had? How long did they continue? Did they leave any apparent effects? Does it sleep well? Does it have dreams or talk in its sleep? Does it walk in its sleep?

2. Does the child use tea or coffee or stimulants of any kind? Does it eat nutritious food, such as brown bread, meat, and so on? Does it dislike any special kinds of food? Do digestion and nutrition seem to be good?

3. Is the child nervous? How does it show it? In uncontrolled movements of the face, hands, or any part of the body? Note especially if there is any twitching of the eyelids or of any part of the face, grinding of the teeth, muscular restlessness.

4. If there are signs of fatigue, notice when these manifest themselves; after a day at school? Upon rising? Or when? To test the child further at such time, ask it to extend its arms above the head with eyes closed, and notice if there is swaying, sinking, or twitching of either hand. Ask it to stand quite still for one or two minutes, and notice any twitching movements.

5. Is the child irritable after a day at school? Does it get weary? Cry easily? Does it get angry whenever it is crossed? Give any other signs of fatigue that you have observed.

6. If these evidences of fatigue are present what effect does a good play have in restoring the normal condition of things? Does the child show signs of fatigue more easily when it does not eat well than at other times?

III. KEENNESS AND LOYALTY OF THE SENSES.

1. Has the child any defect of vision? Does there seem to be a strain about the eyes as though an effort was being made to see clearly?

2. Has it any defect of hearing? Has it ever had trouble with its ears? Can it distinguish the tones of familiar musical instruments? Distinguish slight differences in pitch? Appreciate melody and harmony in sounds?

3. Does it seem keen in distinguishing things by touch? Tell different kinds of cloth by touch? Seem sensitive to slight differences of temperature?

4. Does it seem to breathe easily through the nostrils? Has it any catarrhal affection?

IV. PHYSICAL CHARACTERISTICS.

1. Give the form, size and carriage of head; height and breadth of forehead; shape of nose, mouth and jaw.

2. Are the shoulders carried erect or stooping?

3. Is the chest expanded or contracted? With full or imperfect breathing?

4. Have you noticed any abnormal conditions of the arms, legs, hands or feet? Is the child self-conscious in their management?

5. Does it sit and walk erect with chest prominent?

6. Are its movements vigorous, languid, controlled or nervous?

7. Did it learn to talk early and readily? At what age did it begin to walk?

8. Does the child resemble father or mother in certain physical characteristics; if so, in what? Resemble any remote ancestor?

COMMENTS BY THE EDITOR.

BY COL. FRANCIS W. PARKER.

At the request of the Illinois State Teachers' Association, the above questions were sent to a number of distinguished scientists in physiological psychology, and child-study. The teachers of Illinois, as well as the members of the Illinois Society for Child-Study owe a debt of gratitude to these gentlemen who have given freely from their store, gathered after long, careful and scientific research. The benefit of the answers is plain to see. They give teachers something which they may apply in schoolroom work. These generous responses to the questions should have the most careful and thorough study and discussion.

Child-study in reality is but a new name for all the profitable study of the principles of education that has ever been made, all progress in education having been founded upon close and careful study of the child, his destiny and his possibilities. This distinction, however, must be made; the study of children in the past was largely intuitive, and not scientific in its nature. There has been, however, no genuine reform in education that has not been marked by discoveries in the child-mind. Comenius doubted the then existing methods of education, because they did not arouse or inspire the minds of his pupils. He found very little, if any, spontaneous attention; the pupils had no interest in their work. From this conclusion sprang everything that Comenius ever gave the world in the way of education. The same can be said, in a still broader sense, of Pestalozzi. He saw that children were not happy in their work, that learning was drudgery, that there was little "generation of power" by education. He belived that children could be made happier, stronger and better in every way by a revision of methods, or by a closer, more careful adaptation of subjects to mental action. Pestalozzi was an indefatigable student of children. Froebel went farther in the understanding of child-nature than his predecessors. He observed with the greatest care the instinctive and spontaneous activities of childhood, hence his immortal

method of feeding and nourishing the child's normal activities. The methods of these three reformers in education sprang from intuitions--intuitions so important that they may be classed as divine. There was, in their times, little or no psychology extant that could be used as a guide to the study of the mind, no psychology that could be applied in education. Led by the love for the child, they relied upon what they saw and felt; they were intuitionists. The fact is that the results which they gave the world are tentative; to look upon them as conclusive would be to obstruct the onward progress of educational research. That much which they found, although accepted in theory, has never been thoroughly applied, in no wise lessens the value and importance of the discoveries which they so courageously advocated.

Physiological psychology is an immediate sequence of rational psychology. When the method of studying the activities of the mind became in any degree scientific, it led directly to an investigation of the physical causes of mental action. This induced humanity-loving scientists to propose the application of physiological psychology to education. They saw at once that much in education which is now obscure would be brought into the clear, by scientific study; thus, the intuitive period of child-study is passing ever into the scientific period. Now, both teachers and parents are possessed of educational means which were, in far-reaching results, unknown to our predecessors. Many scientists are now diligently working in the laboratory, gathering data; and the valuable generalizations found, few in number though they be, are an earnest of what the future has in store.

There are teachers who feel that grave questions confront them in the schoolroom; they do not understand their pupils, and therefore fail to reach them through their subjects and methods. To the scientists they look for help in the teaching and treatment of children. Many students of child-study would affirm that sufficient generalizations have not yet been reached for any profitable use in the schoolroom; they therefore withhold their tentative results.

Teachers who gradually free themselves from the firm grip of tradition see in education a never-ending study. The sum

of all the present knowledge of principles or of generally accepted methods of teaching, is but a tithe of that which will one day be found. The path and goal of all education—community life—is in itself an endless study. The being that should move in that path and towards that goal is yet a profound mystery. The subjects of knowledge and the character and habits of skill are boundless in possibilities. Method is the adaptation of subjects of thought and skill to the most economical movement of the soul in the way of and to the end of its highest and best usefulness in community life and in the world. Method, when properly applied, means the *daily realization* of the end and aim of education. Humanly speaking, then, there is no limit to the study of civilization, to the study of the central subjects of knowledge, to the study of the laws of thought-manifestation, and to the study of the being who moves in and into civilization by means of knowledge and skill. Notwithstanding the fact that the study of method is infinite and inexhaustible, every bit of honest, earnest study of education must reveal something better, something that will enhance method, something that will contribute to the good of the general whole. The results of any and all investigations must, however, be held as tentative. In the study of the continuity of human consciousness, we deal with movement alone, and the means of movement. When child-study scientists tell us they have found nothing to reveal, we may infer that they have found little or nothing in any way, or that they have not the courage of their convictions, and hesitate to pronounce strongly against existing methods. Theories, and seemingly sound and good, have never been wanting, but they fail to reach the object. Many, if not most, of the universally accepted theories have never been satisfactorily applied, have never been translated into action. There are scientists who revel in facts and worship theories, hold them in such reverence that they never apply them. It is granted that the application of a sound educational theory is extremely difficult.

"It is not for the mean;
It requireth courage stout,
Souls above doubt,
Valor, unbending;
Such 't will reward—
They shall return
More than they were,
And ever ascending."

No doubt, child-study will one day reach some generalizations never before discovered, but *the present function of child-study is to test theories and methods already known and accepted by all thoughtful educators.* To illustrate: probably the educator who would to-day advocate the mere memorizing of words as a staple product of teaching, does not exist. From Socrates down, they have denounced the weakness of this process, which Dr. Dewey calls "mind disintegration." We have, on the one hand, a strong, well-founded, and ancient theory, a theory to which all agree, a theory so often pressed and urged upon teachers that words in this direction seems like mere platitudes; and, still, *the awful fact is more than evident, that the greater part of all the education in America consists in the learning of words as words.* Examinations, promotions, the constant demand of supervisors, the character of pupils who pass through high school, college and university, abundantly prove this fact—that word learning is made the end and aim of most teaching. For the mere learning of words, this country is now paying millions upon millions of dollars annually; it is taking the time of earnest, honest teachers. The memorizing of empty words is the educational standard of a great majority of parents, and, indeed, of the people generally. If a teacher attempts to overcome this potential evil, he will be made the shining mark for endless criticism. It is a common experience that teachers who leave the beaten, time-worn track, do so at the risk of their official lives. It is plain to see that all the child-study in the world, all the investigations in the region of psychology and pedagogics that may be made, will avail nothing until this tremendous barrier to educational progress is broken down. Of what use is it for teachers to diagnose children, if it is impossible for them to apply rational condi-

tions for their growth? As much use as it is for a physician to diagnose a disease when he is helpless in the application of remedies. This would make of child-study a farce, a mental dissipation. Many a superintendent will read a paper before an educational convention strongly urging better teaching; will present broad views on education; will discuss child-study organizations and child-study round tables; and then go straight to his office and make out examinations that are a direct demand for the cramming of disorganized facts. That which is needed now more than anything else is an *overwhelming weight of testimony against the common, prevailing, unnatural, abnormal methods of teaching.* This weight of testimony can only come from the highest authorities, and it should come with no uncertain sound; it should come with such united power, with such overwhelming evidence, that it will frighten supervisors and teachers into the changes that would revolutionize teaching, lift it from the deadly commonplace, and dignify it as the greatest of arts.

Not until a teacher faces the question of thought-evolution and soul growth does he become a genuine student of the child. Instead of the few who are to-day risking everything of a temporal nature, in order to apply condition to feed, nourish and set free spontaneous activities, there should and can be thousands to pour their rich and new-found contributions into the spiritual treasury of educational thought. The line of battle is clearly and distinctly drawn; the fortress of the enemy rises forbidding and grim, seemingly impregnable in its traditions and strong enough to resist the most determined attacks. A united and simultaneous onset is needed to banish forever this monumental absurdity of the past. It is time some eminent authorities, who ever stand ready to more than apologize for this dreadful state of affairs, threw down their arms. No intelligent educator ever openly defended word cram, but there are many who maintain its supremacy by sophistry, and continue it by examinations. It was many a day before leeches and the blood-letting barber gave way to more natural treatment, and it took longer still to banish calomel and similar drugs, which undermined the system; the educational world needs such a crusade against the pernicious process, "mind disintegration."

The child-study scientists, no doubt, when appealed to, would say: "But this fact is universally known. What is the use of continual repetitions of that which every educator already believes?" I answer, our common enemy is ever before us; it must be met and overcome. Our progress is a continual siege. We can never reach the moat of the fortress until we have taken parallel by parallel every inch of the ground. All rational processes of education, all study of method, are in abeyance until the first and highest barrier, that of mere word-study, is in ruins.

No one can over-estimate the awful waste of energy induced by methods that are radically wrong. So long as the majority of teachers cling to these senseless practices, little can be done in the way of progress.

On the other hand, every teacher who gets a glimpse of something better, who recognizes in part the great law of self-activity, who understands how to direct this activity in the most economical way, who is courageous enough to do the right thing at the right time, enhances the general movement in education. Every teacher who does not study the child, who follows traditional methods and means, and demands word examinations, obstructs progress in education. The duty that stands first and foremost, then, is to bring to bear a weight of testimony so mighty in its facts, so strong in authority, that this blood-letting, leeching process will make way for something infinitely better.

The transition from the unscientific traditional education to a genuine science is difficult. Educational affairs are in an unsettled and semi-chaotic state. That there is a prospective science of education, no one who believes in human growth governed by law, can doubt. Child-study in its broadest meaning, is an important step which will tend to establish fundamental principles of education. The decided advantage of child-study is that a goodly number of ackowledged authorities are giving this subject a thorough and careful investigation. The Illinois Society for Child-Study proposes to collect all important and well-grounded results for the use of teachers. Teachers at work have claims upon these scientists which are not to be ignored by the leaders in this movement. The

first demand is apparent: What is the effect of at least three-fourths of all the teaching in the line of mere word memorizing? What is found to be the result of such drudgery upon the mind and soul? Is the assertion of Dr. John Dewey, that mere word learning is mind disintegration, true? If true, why? Can our friends, the child-study students, give us a decided answer? Is there any possible benefit to be derived from an examination which does not tax the judgment? Why does so much of our teaching fail to reach the object? No matter how trite the questions are, no matter if such discussions seem like educational platitudes, they must be asked and can be answered. If three-fourths of the money spent for educational purposes is squandered, it is time that glittering generalities and fine-spun theories be abandoned, and the main question met squarely and honestly. Were it only a question of money, it would not be so serious, but when we have arrived at the conclusion that it means arrested development and stultified growth, it is high time to appeal to an enlightened educational conscience.

It is time that a second question of no less importance were answered. Dr. Donaldson, an eminent authority in neurology, makes the statement that nerve centers develop by groups, the last to develop being those of the extremities. Dr. Hall, the father of child-study in America, has made the same discovery. In kindergarten and school, millions of little ones still continue the use of their fingers in fine work, in drawing and writing. If Dr. Hall and Dr. Donaldson are right, then these little ones are crippled in body and mind, by the unthinking demands of superintendents and teachers. How long will it take this fact to reach the doors of the schoolroom? No teacher who is not blinded by traditional custom can fail to see the overstrain on the part of children, for instance, in finger slate-writing, and its resulting deformity of the whole body. Teachers do these things in blind conformity to the unreasoning belief that *they must be done.* In this spirit, they, "having eyes, see not" the awful danger of this unnatural process. The highest authorities and all of them, should pile the evidence so as to drive teachers to a compliance with natural laws.

It requires no stretch of the imagination to fancy a teacher attending a round table for child-study, taking directions from Dr. Hall, Dr. Baldwin, and others, studying eagerly all results, and even making some personal investigations in his own school, and still, side by side with these investigations, violating by his practice in teaching every well-known and thoroughly agreed-to principle of education. Such child-study may be properly called a fad, or something worse.

The plain duty, therefore, of all educators is to unite in one solid phalanx against the common enemy, and move that phalanx on to an overwhelming victory.

No thoughtful person can fail to see that the trend of all educational effort is in one direction. A careful perusal of the letters in this pamphlet shows that trend with great clearness. The first duty of a teacher *is to make a thorough and careful diagnosis of the physical, mental and moral condition of each child, to make a scientific study of each personality, and from this diagnosis to present the right conditions for moral, mental and physical action, especially adapted to each personality.* This idea of the trend of all education gives us a glimpse of the future. No doubt, hundreds of years may elapse before this proposition is fully realized, but it is of the highest importance that we ever hold it before us. We must know each child, body, mind and soul, so far as it is possible; then we must apply conditions necessary to the fullest and freest action of each separate personality. The most important function of child-study is to present teachers with the means for making personal diagnoses. Child-study should give us the data by which the teacher may watch with the greatest care and with the best results, each and every growing mind; and this observation of child-mind is not possible unless the teacher can present the means or conditions for freeing the child's activities. In other words, there can be no true teaching without a direct use of the proper means and the application of the right conditions to each individual.

But this is very far from saying that it is not possible to educate a child in a school or in a class, for the school and the class furnish the fundamental conditions for the highest mental movement. When the child finds his own activities,

under any community-life, when his highest intellectual and moral incentives spring from clearly perceived duties, then alone the individual has the means of developing in the strongest and best way his own personality.

The movement, then, of all child-study is in the direction of the diagnosis of personality and the application of means to each separate personality. What can be done to-day with our limited knowledge of the child? The first thing to be done, it seems to me, is to study the defectives found in large numbers in every school in the land. There are thousands of children who are condemned as hopelessly dull, who are partially deaf or blind, children afflicted with astigmatism or myopia. There are thousands of other children to whom the brain power necessary for attention is not given, many others whose motor nerve-centers are decidedly out of order. Thousands of other children who are suffering with incipient diseases, who are nagged and worried because they cannot possibly do the work given them, and the teacher does not understand the impossibility. There are many children in whom are the seeds of grave disease, who, in a word, should be any where but in the schoolroom. There are great numbers of children who need special physical training. There are others who should have manual training, only, for a time. There is no doubt of the fact that thousands of children die yearly from the lack of intelligence on the part of parents and teachers. These are some of the plainest problems before us. Any teacher of average intelligence can ascertain these facts, or, if he cannot ascertain them himself, there are plenty of physicians and specialists who are ready to step into a schoolroom and help him. A distinguished psychologist in the east declared not long ago that he could not see how it was possible to use child-study efficiently in the work of education. It may be pertinently asked, has child-study any other use? Have physiological psychology and rational psychology any other use than to assist the growing mind? It is readily granted that few teachers can go into the mysteries of strictly laboratory work. For such work, it takes broad, liberal education and special training; but child-study specialists should make the best teachers of teachers; they should tell,

and can tell, clearly and plainly how to find defects, and how, in some measure, to treat them. I repeat, if child-study cannot be used by teachers, it is of no earthly use. It may lend its aid in fascinating some diligent students for a series of years, serving as a good time-killer. Through the investigations I have already suggested, especially the finding of physical defects, countless teachers may become intensely interested in the work, and through this interest they will discover that certain methods lead only to mental degradation; others to health and life.

Child-study is having a powerful influence in another direction. In every prominent college, and in all universities in the United States, there is now a well-filled chair of physiological psychology. The common university idea of method is well known. To the average professor in a university, method consists of a number of tricks or devices or special ways of doing things that may be copied or patterned after by teachers. The weight of testimony on the part of college and university to-day is that there is no science of education, and that there is very grave doubt whether there ever can or will be a genuine art of teaching. These doubts overshadow all the lower education; they cast a gloom over the minds of aspiring teachers. They say to teachers, "Get knowledge, get an immense amount of knowledge, and you can teach," when the fact is that teachers loaded down with knowledge, burdened with knowledge, are the poorest teachers in the world. That knowledge only is of worth that enters into human life, that inspires human souls to higher action. The immediate function of child-study in the universities is to convince the professors that if there is not, at present, a science of education, there must be such a science, and that science is working out under their very eyes.

Well worked out theories are of vast benefit to all the teaching world, but those benefits become real only by direct application in the schoolroom. On the one hand, we have a vast number of teachers who have fixed methods, rigid movements, unalterable ideas of examination, and permanent, unchangeable standards of promotion. From the doors of schoolrooms, under such teachers, are driven a countless number of chil-

dren who are deemed hopelessly dull—children upon whom has settled a darkening cloud of despair, which may or may not be lifted by the common sense action of the outer world. One thing is everlastingly true—a fact that should arouse every child-lover to the effort that makes success—everyone of these defectives may be radically helped, helped in such a way that their lives may be made happy and useful. Another thing is true, and that is the fact that thousands of teachers are eager and anxious to help such children if *they had a chance;* but with a false examination on one hand and bread and butter on the other, *they dare not try.* There is love enough in the world, if it could only reach its object, by being translated into action.

Teachers with fixed methods may take up child-study as a sort of mental recreation, a sort of refreshment from the mind-deadening work in the schoolroom. Such teachers will take little or nothing out of child-study to apply in the schoolroom. Theory and practice are two regions far remote each from the other. There are, on the other hand, a few teachers who are earnestly, honestly, and devotedly studying the child, and striving to find means to lead the self-activity of the child into the highest usefulness. To such teachers child-study comes as the greatest blessing. Such teachers are ever ready to change when they can see a good reason for it. In fact, to such teachers everlasting change is true consistency. There will be in our work blunders not a few; there will be crude attempts everywhere. There will be the same severe, bitter criticisms from the fixed-methodists that there have been; the same ridicule will be poured out unsparingly; but the movement is going on and on, because some teachers love the welfare of the children more than they do methods or traditions. This love will lead to broader and better fields.

The greatest obstruction to-day in educational progress is the profound ignorance, and therefore indifference, to real education on the part of parents and the public generally. Many a mother who would die for her child will not and cannot be made to think carefully and earnestly of the child's nature, to study the child, and use all possible means at hand for that study. Not long ago an intelligent mother said, when

invited to a child-study round table: "I know as much about my children as anybody; I do not need child-study to help me." This statement is simply the echo of a general one. Through the education of the past, most parents have a fixed standard. Health and morality rarely come into this standard; it consists of the acquisition of knowledge, promotion, successful examination, show-off, high school, college, and university. It matters little what happens to the child's health or morals; he must reach the goal of knowledge.

The child-study round table instituted by our society is doing a much-needed work in this direction. Parents have begun to study their children; they have begun to take a deeper interest in the work of the schoolroom. Such study will lead to a strong alliance between the home and the school. The day will no doubt come when the parents and teacher will have one common standard of education, and that is the highest good of the child, found in the highest good of the community.

With many a blunder and foolish notion, we shall, day by day, reach something higher and better for the children. We shall do it because teachers are earnest and honest in their work. We shall do it because civilization demands a better education, because the way, the truth and the life of the world depends upon it; the problem of humanity is to be fundamentally worked out in the schoolroom. When we acquire great and ever greater faith in humanity; when we recognize the value and dignity of the individual; when we realize that our march is along the infinite line of possibilities, we, the teachers of America, will be willing to lay down our lives, willing to give up all hope of fame and fortune, to sink ourselves into the study whose application is to save the world—that of the child.

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